TDK

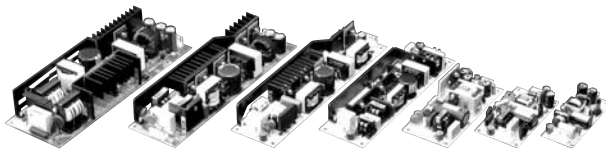
AC Input
Single Output, General-Purpose, UL/C-UL/TÜV Approved

Conformity to RoHS Directive

J Series JBW(10 to 150W)

FEATURES

- Compact and low price.
- Wide input voltage range.
- Safety standards approved.
- Corresponds to products with CE marking.
- Full lineup of output power 10 to 150W
- Open frame
- Meets conducted noise standard FCC Class B.
- Warranty period: 3 years
- Specific bromine inflammable materials (PBDPEs, PBBs) are not included in use.
- It is a product conforming to RoHS directive.



APPLICATIONS

Measuring equipment, robotics, automation equipment, information processing equipment, security systems, amusement equipment, etc.

SAFETY STANDARDS

UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV), approved.

EMC REGULATIONS

- FCC Class-B, VCCI Class-B, EN-55011-B and EN55022-B meet.
- Harmonic current requirement EN61000-3-2 meet(50 to 150W).

PRODUCT IDENTIFICATION

JBW	05	–	2R0
(1)	(2)		(3)

(1)Series name
(2)Rated output voltage
(3)Rated output current(R: Decimal point)

PART NUMBERS AND RATINGS

Output voltage	10W Type		15W Type		30W Type		50W Type	
(V)	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
5	2	JBW05-2R0	3	JBW05-3R0	6	JBW05-6R0	10	JBW05-10R
12	0.9	JBW12-0R9	1.3	JBW12-1R3	2.5	JBW12-2R5	4.3	JBW12-4R3
15	0.7	JBW15-0R7	1	JBW15-1R0	2	JBW15-2R0	3.5	JBW15-3R5
24	0.5	JBW24-0R5	0.7	JBW24-0R7	1.3	JBW24-1R3	2.1	JBW24-2R1

Output voltage	75W Type		100W Type		150W Type	
(V)	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
5	15	JBW05-15R	20	JBW05-20R	30	JBW05-30R
12	6.3	JBW12-6R3	8.5	JBW12-8R5	12.5	JBW12-12R
15	5.0	JBW15-5R0	6.7	JBW15-6R7	10	JBW15-10R
24	3.2	JBW24-3R2	4.3	JBW24-4R3	6.3	JBW24-6R3
48	—	—	—	—	3.2	JBW48-3R2

• 3.3 and 48V models(75 to 150W type) are made to order.

- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

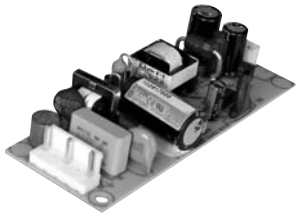
JBW10W Type

SPECIFICATIONS AND STANDARDS

Part No.			JBW05-2R0	JBW12-0R9	JBW15-0R7	JBW24-0R5
Rated output voltage and current*			5V • 2A	12V • 0.9A	15V • 0.7A	24V • 0.5A
Maximum output power		W	10	10.8	10.5	12
Input conditions						
Input voltage Eac/Edc		V	85 to 265[Rating: 100 to 240]/110 to 370			
Input frequency		Hz	47 to 440[Rating: 50 to 60](Single phase)			
Input current		A	0.25typ./0.35max. [AC.100V]0.15typ./0.25max.[AC.240V]			
Fuse rating		A	2[AC.250V, built-in]			
Surge current		A	15typ.(20max.)[AC.100V]30typ.(40max.)[AC.240V] 1st surge current, cold start, reset after 1s minimum.			
Leakage current		mA	0.1typ./0.75max.[AC.100V, 60Hz]0.15typ./0.75max.[AC.240V, 60Hz]			
Power factor			0.6typ./0.45typ.[AC.100/240V]			
Efficiency		%	71typ.[AC.100V]	78typ.[AC.100V]	79typ.[AC.100V]	82typ.[AC.100V]
		%	71typ.[AC.240V]	79typ.[AC.240V]	80typ.[AC.240V]	83typ.[AC.240V]
Output characteristics						
Output voltage Edc		V	5	12	15	24
Voltage variable range Edc		V	Fixed	Fixed	Fixed	Fixed
Maximum output current		A	2	0.9	0.7	0.5
Minimum output current		A	0	0	0	0
Overvoltage threshold Edc		V	5.75min.	13.8min.	17.25min.	27.6min.
Overcurrent threshold		A	2.5min.	1.12min.	0.87min.	0.62min.
Voltage stability	Source effect	%	0.4max.[Within the input voltage range]			
	Load effect	%	0.8max.[0 to 100% load]			
	Temperature effect	%	1max.[Ambient temperature: –10 to +50°C]			
	Drift(Time effect)	%	0.4max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]			
	Recovery	%	±4max.[50 to 100% sudden load change]			
Ripple Ep-p		mV	80max.	120max.	120max.	120max.
Ripple noise Ep-p		mV	120max.	150max.	150max.	150max.
Start up time		ms	700max.(200typ.)/700max.(200typ.) [AC.100/240V]			
Hold up time		ms	15typ/140typ [AC.100/240V]			
Auxiliary functions						
Indicator display			No			
Overvoltage protection			Zenor diode clamp method, output may latch up depending on the condition.			
Overcurrent protection			Fold back type, automatic recovery.			
Remote ON-OFF			No			
Remote sensing			No			
Parallel operation			Impossible			
Series operation			Inpossible			
Output voltage external variable function			No			
Standards						
Safety standards			UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV) approved.			
Noise terminal voltage			FCC-B, VCCI-B, EN55011-B, EN55022-B meet.			
Input harmonics current requirement			No			
Constructions						
External dimensions		mm	21×36×95[H×W×L]			
Weight		g	50max.			
Mounting method			Can be attached to 1 side.			
Case material			No(PWB Material: CEM3)			

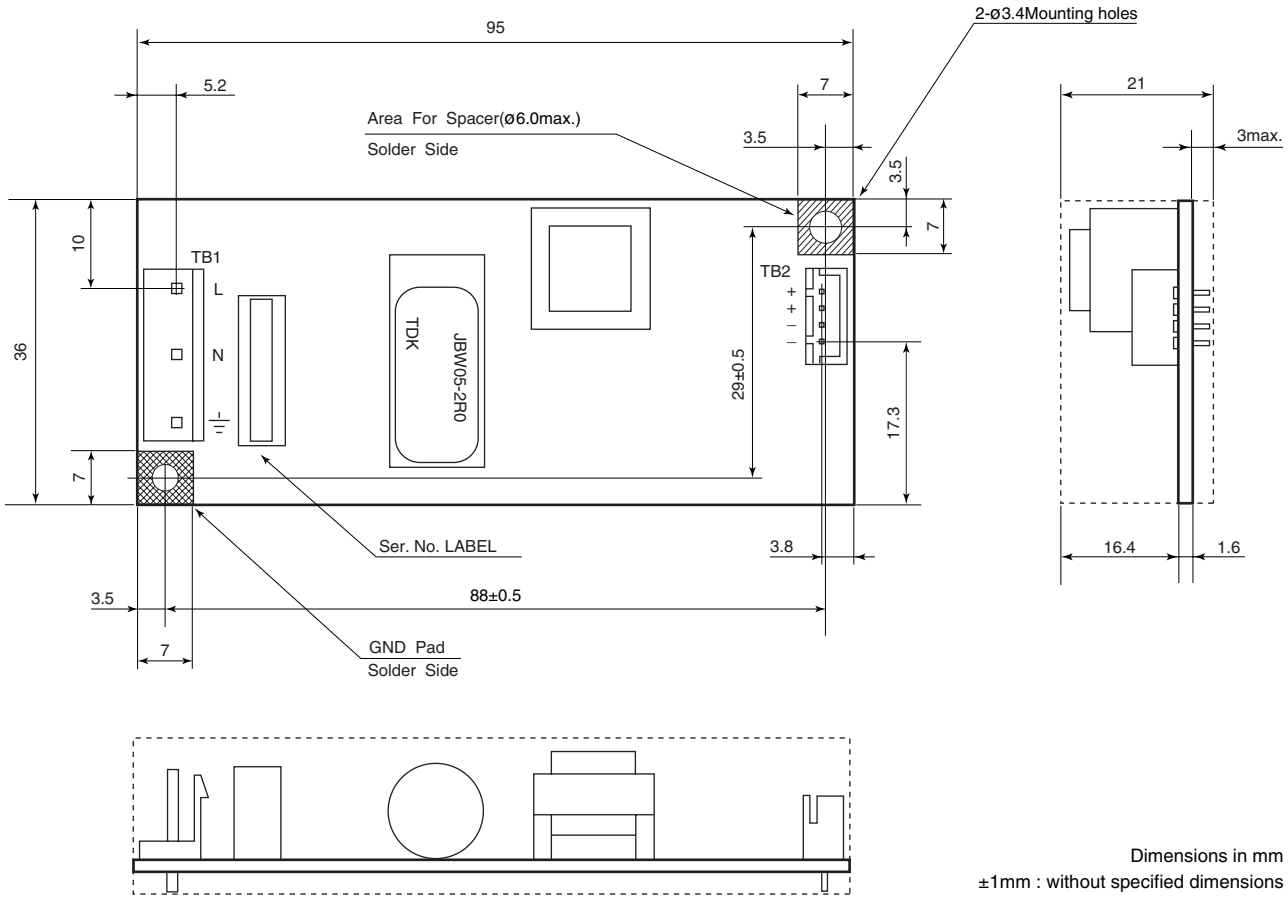
* Current rating(maximum output current) is determined for –10 to +50°C. Derating is required when used outside this temperature range.

• Optional input, output cable kits are available at a separate price.



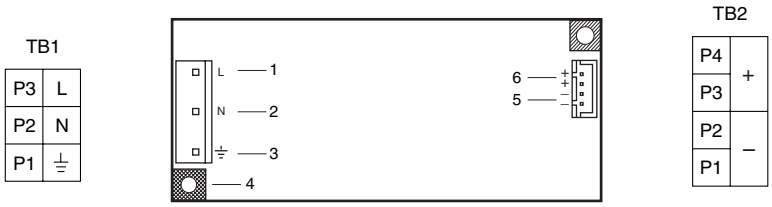
JBW10W Type

SHAPES AND DIMENSIONS



Dimensions in mm
±1mm : without specified dimensions

TERMINAL DESIGNATION



Terminal No.	Designations
1	Input terminal(L)
2	Input terminal(N)
3	Frame ground terminal(G)
4	Ground pad
5	Output terminal(–)
6	Output terminal(+)

Connector made by	Power supply side connector	Cable Side Housing	Terminal
Japan Solderless Terminal Co., Ltd.			
Input Connector(TB1) VH Series	B3P5-VH-B	VHR-5N	SVH-21T-P1.1
Output Connector(TB2) XH Series	B4B-XH-2	XHP-4	SXH-001T-P0.6
LCE			
Input Connector(TB1) P101 Series	P101-05-2/4	H101-05	T101
Output Connector(TB2) P221 Series	P221-04	H221-04	T221-01

Option	Part No.
Set	4EU20G054

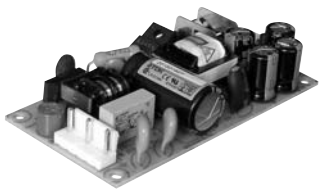
JBW15W Type

SPECIFICATIONS AND STANDARDS

Part No.			JBW05-3R0	JBW12-1R3	JBW15-1R0	JAW24-0R7
Rated output voltage and current*			5V • 3A	12V • 1.3A	15V • 1.0A	24V • 0.7A
Maximum output power		W	15	15.6	15	16.8
Input conditions						
Input voltage Eac/Edc		V	85 to 265[Rating: 100 to 240]/110 to 370			
Input frequency		Hz	47 to 440[Rating: 50 to 60](Single phase)			
Input current		A	0.36typ./0.43max.[AC.100V]0.2typ./0.24max.[AC.240V]			
Fuse rating		A	2[AC.250V, built-in]			
Surge current		A	15typ./19.5max.[AC.100V]30typ./41max.[AC.240V] 1st surge current, cold start, reset after 1s minimum.			
Leakage current		mA	0.2typ./0.75max.[AC.100V, 60Hz]0.3typ./0.75max.[AC.240V, 60Hz]			
Power factor			0.6typ./0.45typ.[AC.100/240V]			
Efficiency		%	72typ.[AC.100V]	76typ.[AC.100V]	76typ.[AC.100V]	78typ.[AC.100V]
		%	72typ.[AC.240V]	74typ.[AC.240V]	74typ.[AC.240V]	76typ.[AC.240V]
Output characteristics						
Output voltage Edc		V	5	12	15	24
Voltage variable range Edc		V	Fixed	Fixed	Fixed	Fixed
Maximum output current		A	3	1.3	1	0.7
Minimum output current		A	0	0	0	0
Overvoltage threshold Edc		V	5.75min.	13.8min.	17.25min.	27.6min.
Overcurrent threshold		A	3.15min.	1.37min.	1.05min.	0.74min.
Voltage stability	Source effect	%	0.4max.[Within the input voltage range]			
	Load effect	%	0.8max.[0 to 100% load]			
	Temperature effect	%	1max.[Ambient temperature: –10 to +50°C]			
	Drift(Time effect)	%	0.4max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]			
	Recovery	%	±4max.[50 to 100% sudden load change]			
Ripple Ep-p		mV	80max.	120max.	120max.	120max.
Ripple noise Ep-p		mV	120max.	150max.	150max.	150max.
Start up time		ms	200max.(25typ.)/100max.(25typ.)[AC.100/240V]		200max.(40typ.)/100max.(40typ.)[AC.100/240V]	
Hold up time		ms	13typ./150typ. [AC.100/240V]			
Auxiliary functions						
Indicator display			No			
Overvoltage protection			Zenor diode clamp method, output may latch up depending on the condition.			
Overcurrent protection			Rectangular type, automatic recovery.			
Remote ON-OFF			No			
Remote sensing			No			
Parallel operation			Impossible			
Series operation			Impossible			
Output voltage external variable function			No			
Standards						
Safety standards			UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV) approved.			
Noise terminal voltage			FCC-B, VCCI-B, EN55011-B, EN55022-B meet.			
Input harmonics current requirement			No			
Constructions						
External dimensions		mm	22.6×50×95[H×W×L]			
Weight		g	80max.			
Mounting method			Can be attached to 1 side.			
Case material			No(PWB Material: CEM3)			

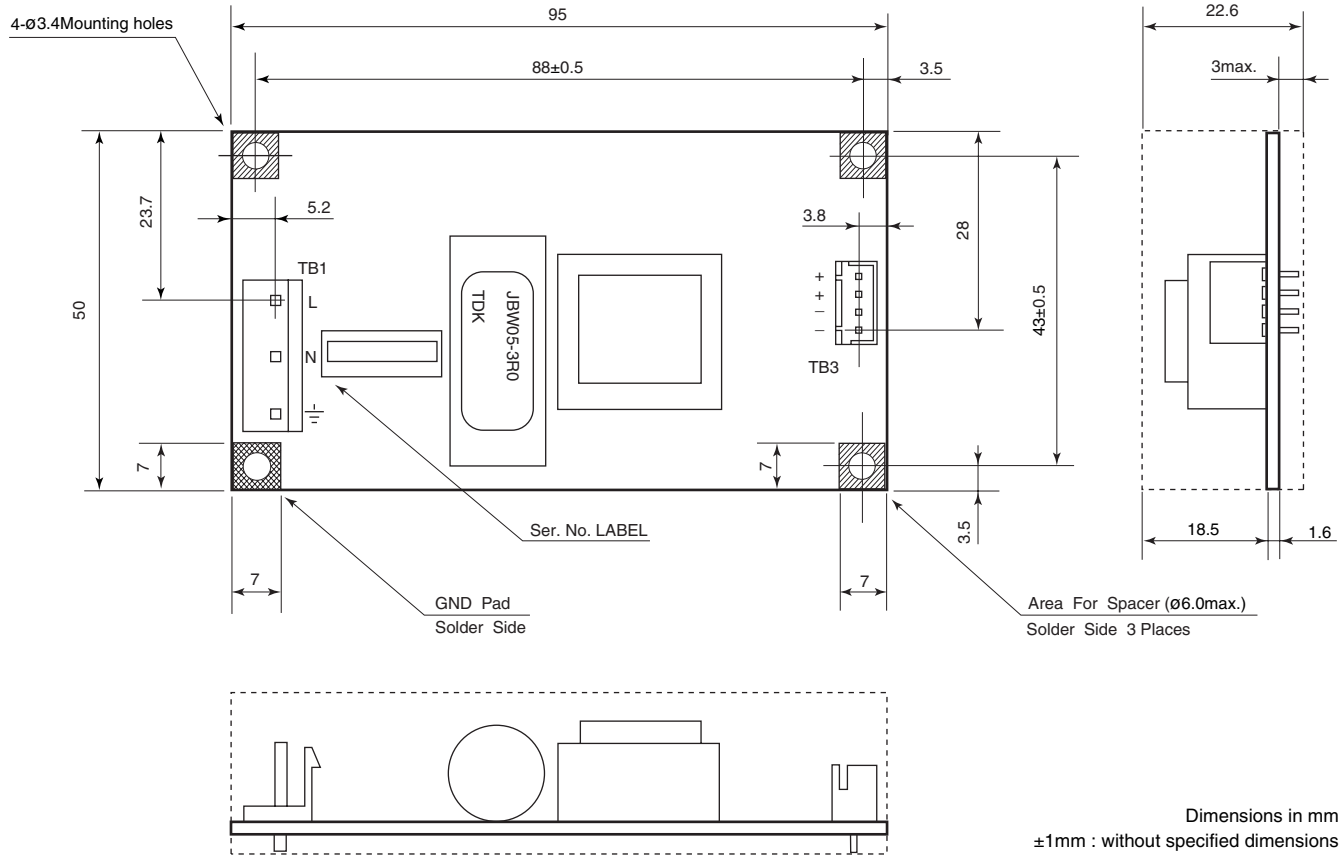
* Current rating(maximum output current) is determined for –10 to +50°C. Derating is required when used outside this temperature range.

• Optional input, output cable kits are available at a separate price.



JBW15W Type

SHAPES AND DIMENSIONS

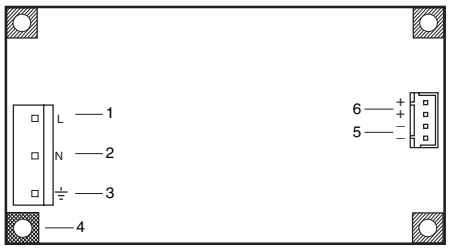


Dimensions in mm
±1mm : without specified dimensions

TERMINAL DESIGNATION

TB1

P3	L
P2	N
P1	⏚



TB3

P4	+
P3	
P2	−
P1	

Terminal No.	Designations
1	Input terminal(L)
2	Input terminal(N)
3	Frame ground terminal(G)
4	Ground pad
5	Output terminal(–)
6	Output terminal(+)

Connector made by	Power supply side connector	Cable Side	
		Housing	Terminal
Japan Solderless Terminal Co., Ltd.			
Input Connector(TB1) VH Series	B3P5-VH-B	VHR-5N	SVH-21T-P1.1
Output Connector(TB3) XH Series	B4B-XH-2	XHP-4	SXH-001T-P0.6
LCE			
Input Connector(TB1) P101 Series	P101-05-2/4	H101-05	T101
Output Connector(TB3) P221 Series	P221-04	H221-04	T221-01

Option	Part No.
Set	4EU20G054

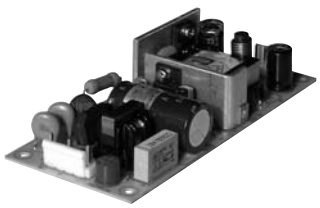
JBW30W Type

SPECIFICATIONS AND STANDARDS

Part No.			JBW05-6R0	JBW12-2R5	JBW15-2R0	JAW24-1R3
Rated output voltage and current*			5V • 6A	12V • 2.5A	15V • 2A	24V • 1.3A
Maximum output power		W	30	30	30	31.2
Input conditions						
Input voltage Eac/Edc		V	85 to 265[Rating: 100 to 240]/110 to 370			
Input frequency		Hz	47 to 440[Rating: 50 to 60](Single phase)			
Input current		A	0.65typ./0.86max.[AC.100V]0.35typ./0.48max.[AC.240V]			
Fuse rating		A	2[AC.250V, built-in]			
Surge current		A	15typ./30max.[AC.100V]30typ./60max.[AC.240V] 1st surge current, cold start, reset after 1s minimum.			
Leakage current		mA	0.35typ./0.75max.[AC.100V, 60Hz]0.5typ./0.75max.[AC.240V, 60Hz]			
Power factor			0.6typ./0.45typ.[AC.100/240V]			
Efficiency		%	75typ.[AC.100V]	78typ.[AC.100V]	79typ.[AC.100V]	80typ.[AC.100V]
		%	77typ.[AC.240V]	79typ.[AC.240V]	80typ.[AC.240V]	81typ.[AC.240V]
Output characteristics						
Output voltage Edc		V	5	12	15	24
Voltage variable range Edc		V	Fixed	Fixed	Fixed	Fixed
Maximum output current		A	6	2.5	2	1.3
Minimum output current		A	0	0	0	0
Overvoltage threshold Edc		V	5.6min.	13.3min.	16.6min.	26.5min.
Overcurrent threshold		A	6.3min.	2.7min.	2.1min.	1.4min.
Voltage stability	Source effect	%	0.4max.[Within the input voltage range]			
	Load effect	%	0.8max.[0 to 100% load]			
	Temperature effect	%	2max.[Ambient temperature: –10 to +50°C]			
	Drift(Time effect)	%	0.4max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]			
	Recovery	%	±4max.[50 to 100% sudden load change]			
Ripple Ep-p		mV	80max.	120max.	120max.	120max.
Ripple noise Ep-p		mV	120max.	150max.	150max.	150max.
Start up time		ms	650max.(350typ.)/320max.(130typ.)[AC.100/240V]			
Hold up time		ms	20typ./160typ.[AC.100/240V]			
Auxiliary functions						
Indicator display			No			
Overvoltage protection			Voltage shut-down type.			
Overcurrent protection			Rectangular type(Winker operation), automatic recovery.			
Remote ON-OFF			No			
Remote sensing			No			
Parallel operation			Impossible			
Series operation			Impossible			
Output voltage external variable function			No			
Standards						
Safety standards			UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV) approved.			
Noise terminal voltage			FCC-B, VCCI-B, EN55011-B, EN55022-B meet.			
Input harmonics current requirement			No			
Constructions						
External dimensions		mm	26×55×122[H×W×L]			
Weight		g	150max.			
Mounting method			Can be attached to 1 side.			
Case material			No(PWB Material: CEM3)			

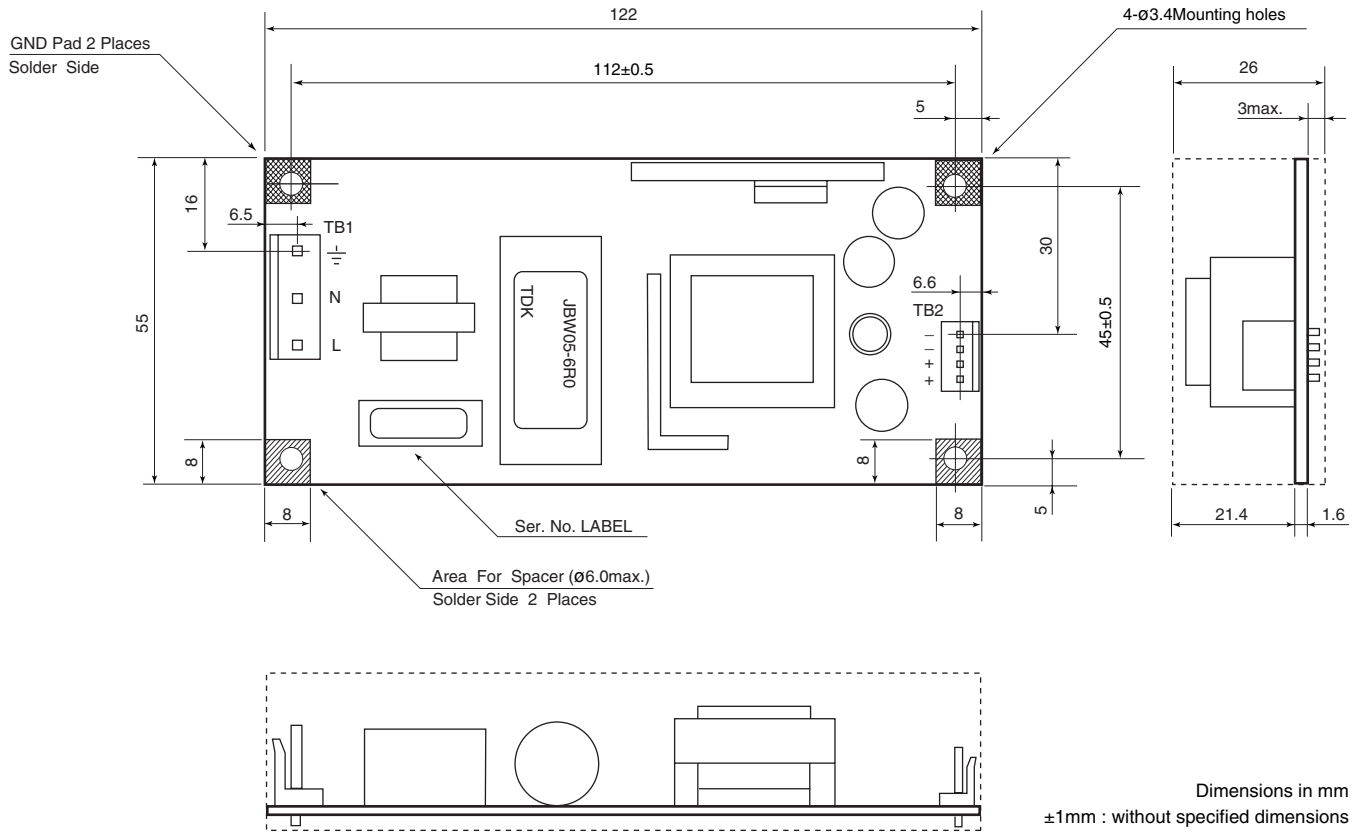
* Current rating(maximum output current) is determined for –10 to +50°C. Derating is required when used outside this temperature range.

• Optional input, output cable kits are available at a separate price.



JBW30W Type

SHAPES AND DIMENSIONS



Dimensions in mm
±1mm : without specified dimensions

TERMINAL DESIGNATION

Terminal No.	Designations
1	Input terminal(L)
2	Input terminal(N)
3	Frame ground terminal(G)
4	Ground pad
5	Output terminal(–)
6	Output terminal(+)

Connector made by	Power supply side connector	Cable Side	
		Housing	Terminal
Japan Solderless Terminal Co., Ltd.			
Input Connector(TB1) VH Series	B3P5-VH-B	VHR-5N	SVH-21T-P1.1
Output Connector(TB2) VH Series	B4P-VH-B	VHR-4N	SVH-21T-P1.1
LCE			
Input Connector(TB1) P101 Series	P101-05-2/4	H101-05	T101
Output Connector(TB2) P101 Series	P101-04	H101-04	T101

Option	Part No.
Set	4EU20G057

JBW50W Type

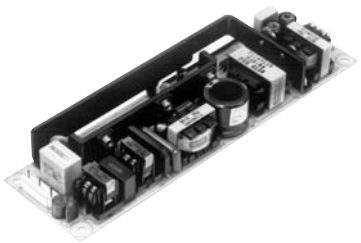
SPECIFICATIONS AND STANDARDS

Part No.			JBW05-10R	JBW12-4R3	JBW15-3R5	JBW24-2R1
Rated output voltage and current*1			5V • 10A	12V • 4.3A	15V • 3.5A	24V • 2.1A
Maximum output power		W	50	51.6	52.5	50.4
Input conditions						
Input voltage Eac/Edc*2		V	85 to 265[Rating: 100 to 240]/120 to 375			
Input frequency		Hz	47 to 66[Rating: 50 to 60](Single phase)			
Input current		A	0.7typ./0.88max. [AC.100V]0.35typ./0.5max.[AC.240V]			
Fuse rating		A	3.15[AC.250V, built-in]			
Surge current		A	15typ.(30max.)[AC.100V]40typ.(60max.)[AC.240V] cold start			
Leakage current		mA	0.35typ./0.75max.[AC.100V, 60Hz]0.5typ./0.75max.[AC.240V, 60Hz]			
Power factor			0.99typ./0.93typ.[AC.100/240V]			
Efficiency		%	77typ.[AC.100V]	80typ.[AC.100V]	80typ.[AC.100V]	81typ.[AC.100V]
		%	79typ.[AC.240V]	81typ.[AC.240V]	81typ.[AC.240V]	83typ.[AC.240V]
Output characteristics						
Output voltage Edc		V	5	12	15	24
Voltage variable range Edc		V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5	21.6 to 26.4
Maximum output current		A	10	4.3	3.5	2.1
Minimum output current		A	0	0	0	0
Overvoltage threshold Edc		V	5.75 to 6.9	13.8 to 16.8	17.2 to 21	27.6 to 33.6
Overcurrent threshold		A	10.5min.	5.4min.	4.4min.	2.7min.
Voltage stability	Source effect	%	0.4max.[Within the input voltage range]			
	Load effect	%	0.8max.[0 to 100% load]			
	Temperature effect	%	1max.[Ambient temperature: –10 to +50°C]			
	Drift(Time effect)	%	0.4max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]			
	Recovery	%	±4max.[50 to 100% sudden load change]			
Ripple Ep-p		mV	80max.	120max.	120max.	120max.
Ripple noise Ep-p		mV	120max.	150max.	150max.	150max.
Start up time		ms	500max.(400typ.)/500max.(400typ.) [AC.100/240V]			
Hold up time		ms	20typ./20typ. [AC.100/240V]			
Auxiliary functions						
Indicator display			No			
Overvoltage protection			Voltage shut-down type.			
Overcurrent protection			Rectangular type, automatic recovery.			
Remote ON-OFF			No			
Remote sensing			No			
Parallel operation			Impossible			
Series operation			Possible			
Output voltage external variable function			No			
Standards						
Safety standards			UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV) approved.			
Noise terminal voltage			FCC-B, VCCI-B, EN55011-B, EN55022-B meet.			
Input harmonics current requirement			EN61000-3-2 meet.			
Constructions						
External dimensions		mm	26×55×190[H×W×L]			
Weight		g	220max.			
Mounting method			Can be attached to 1 side.			
Case material			No(PWB Material: CEM3)			

*1 Current rating(maximum output current) is determined for –10 to +50°C. Derating is required when used outside this temperature range.

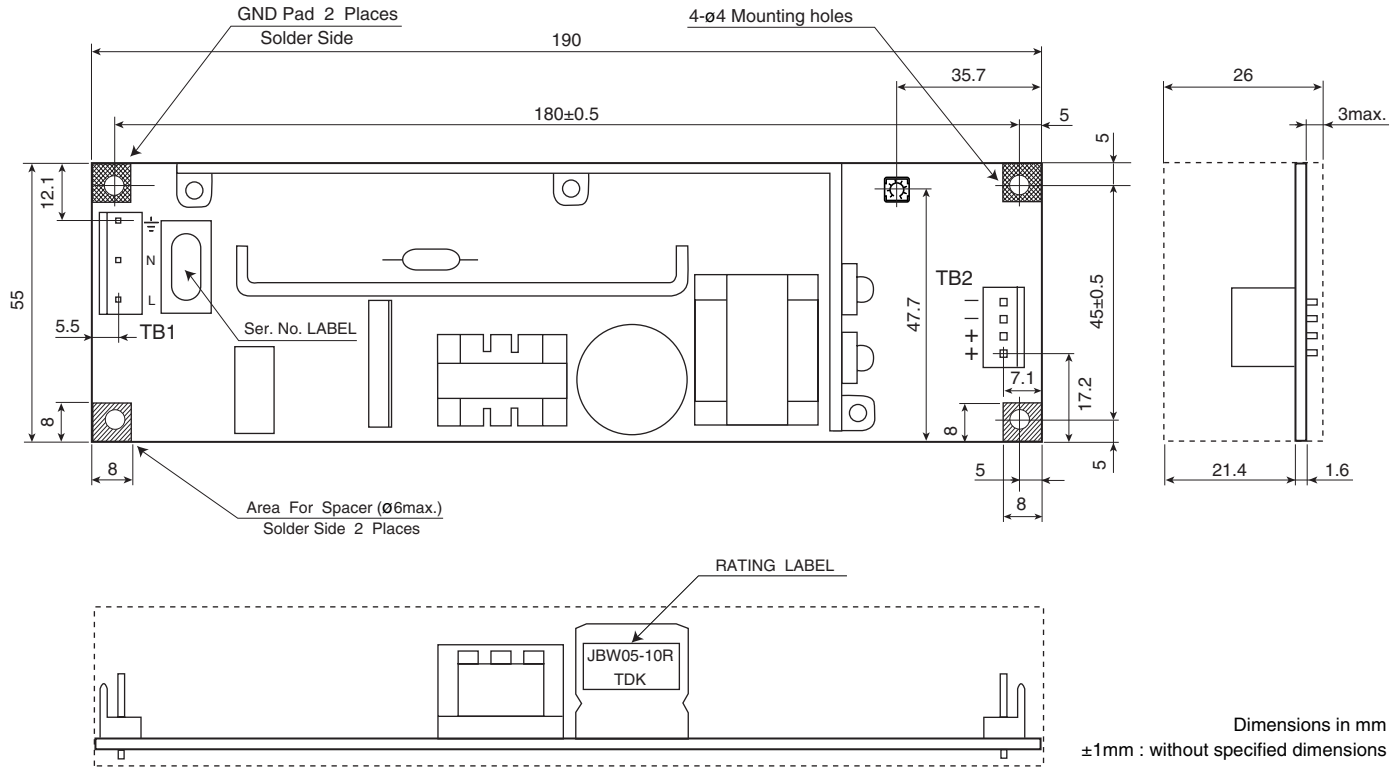
*2 Please note that the deterioration of parts is occasionally caused when operating for a long time(over 10 minutes) with the voltage below the range of the input voltage.

• Optional input, output cable kits are available at a separate price.



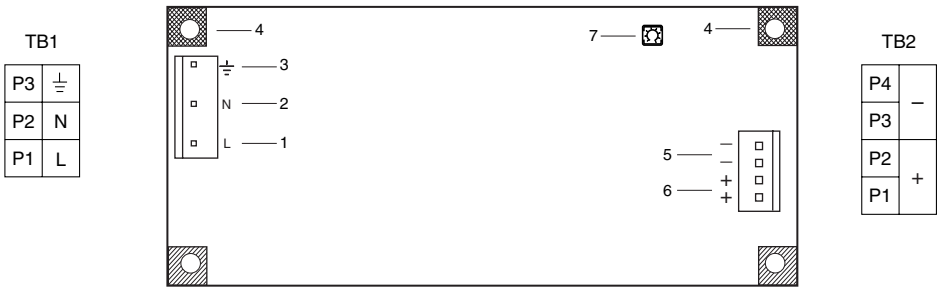
JBW50W Type

SHAPES AND DIMENSIONS



Dimensions in mm
±1mm : without specified dimensions

TERMINAL DESIGNATION



Terminal No.	Designations
1	Input terminal(L)
2	Input terminal(N)
3	Frame ground terminal(G)
4	Ground pad
5	Output terminal(–)
6	Output terminal(+)
7	Output voltage variable volume

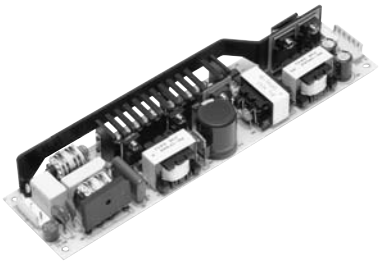
Connector made by	Power supply side connector	Cable Side Housing	Cable Side Terminal
Japan Solderless Terminal Co., Ltd.			
Input Connector(TB1) VH Series	B3P5-VH-B	VHR-5N	SVH-21T-P1.1
Output Connector(TB2) VH Series	B4P-VH-B	VHR-4N	SVH-21T-P1.1
LCE			
Input Connector(TB1) P101 Series	P101-05-2/4	H101-05	T101
Output Connector(TB2) P101 Series	P101-04	H101-04	T101

Option	Part No.
Set	4EU20G057

JBW75W Type

SPECIFICATIONS AND STANDARDS

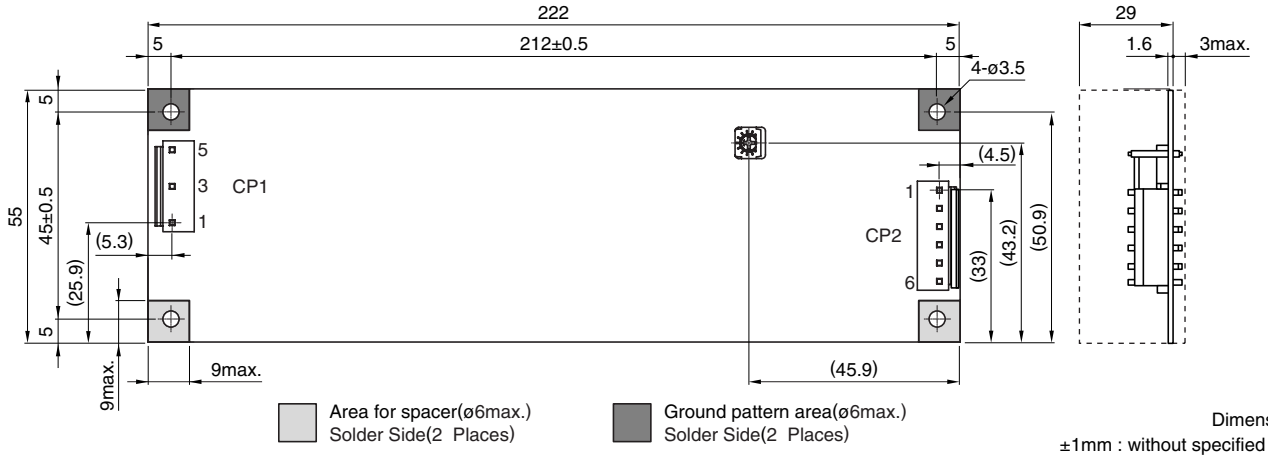
Part No.			JBW05-15R	JBW12-6R3	JBW15-5R0	JBW24-3R2
Rated output voltage and current			5V • 15A	12V • 6.3A	15V • 5.0A	24V • 3.2A
Maximum output power		W	75	75.6	75	76.8
Input conditions						
Input voltage Eac/Edc		V	85 to 265[Rating: 100-240]/120 to 370			
Input frequency		Hz	47 to 66			
Input current		A	1.6/0.8max.[100-240V]			
Fuse rating		A	3.15			
Surge current		A	30/60max.[100-240V]			
Leakage current		mA	0.75/0.75max.[AC.100V(DENAN)/240V(UL, IEC)]			
Power factor			0.99/0.95typ.[100-240V]			
Efficiency		%	75/77typ. [100-240V]	78/80typ. [100-240V]	79/81typ. [100-240V]	82/84typ. [100-240V]
Output characteristics						
Output voltage Edc		V	5	12	15	24
Voltage variable range Edc		V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5	21.6 to 26.4
Maximum output current		A	15	6.3	5.0	3.2(Peak4.2)
Overvoltage threshold Edc		V	5.75 to 6.9	13.8 to 16.8	17.2 to 21	27.6 to 33.6
Overcurrent threshold		A	15.8min.	6.6min.	5.2min.	4.4min.
Voltage stability	Source effect	%	0.4max.[Within the input voltage range]			
	Load effect	%	0.8max.[0 to 100% load]			
	Temperature effect	%	1max.[Ambient temperature: −10 to +60°C]			
	Drift(Time effect)	%	0.4max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]			
	Recovery	%	±4max.[50 to 100% sudden load change]			
Ripple Ep-p		mV	80	120	120	120
Ripple noise Ep-p		mV	120	150	150	150
Start up time		ms	500max.(400typ.)/250max.(200typ.)[AC.100/240V]			
Hold up time		ms	20typ.[100-240V]			
Auxiliary functions						
Indicator display			No			
Overvoltage protection			Voltage shut-down type(Latch).			
Overcurrent protection			Rectangular type, automatic recovery.			
Remote ON-OFF			No			
Remote sensing			No			
Standards						
Safety standards			UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV) approved.			
Noise terminal voltage			FCC-B, VCCI-B, EN55011-B, EN55022-B meet.			
Input harmonics current requirement			EN61000-3-2			
CE marking			Planned compliance.			
Constructions						
External dimensions		mm	32×55×222[H×W×L]			
Weight		g	290max.			
Mounting method			Can be attached to 1 side.			
Case material			CEM3			



• All specifications are subject to change without notice.

JBW75W Type

SHAPES AND DIMENSIONS



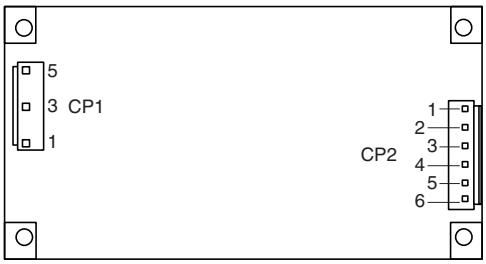
Dimensions in mm
±1mm : without specified dimensions

TERMINAL DESIGNATION

CP1

P1	L
P3	N
P5	⏚

· Japan Solderless Terminal Co., Ltd.
VH Series B3P5-VH-B



CP2

P1	
P2	−
P3	
P4	
P5	+
P6	

· Japan Solderless Terminal Co., Ltd.
VH Series B6P-VH-B

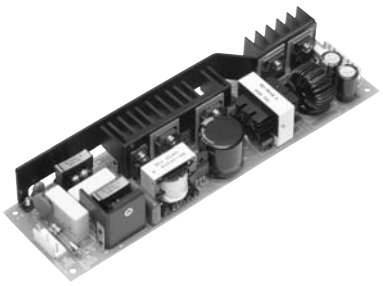
Connector made by	Power supply side connector	Cable Side	
		Housing	Terminal
Japan Solderless Terminal Co., Ltd.			
Input Connector(CP1)VH Series	B3P5-VH-B	VHR-5N	SVH-21T-P1.1
Output Connector(CP2)VH Series	B6P-VH-B	VHR-6N	SVH-21T-P1.1

Option	Part No.
Set	4EU20G085

JBW100W Type

SPECIFICATIONS AND STANDARDS

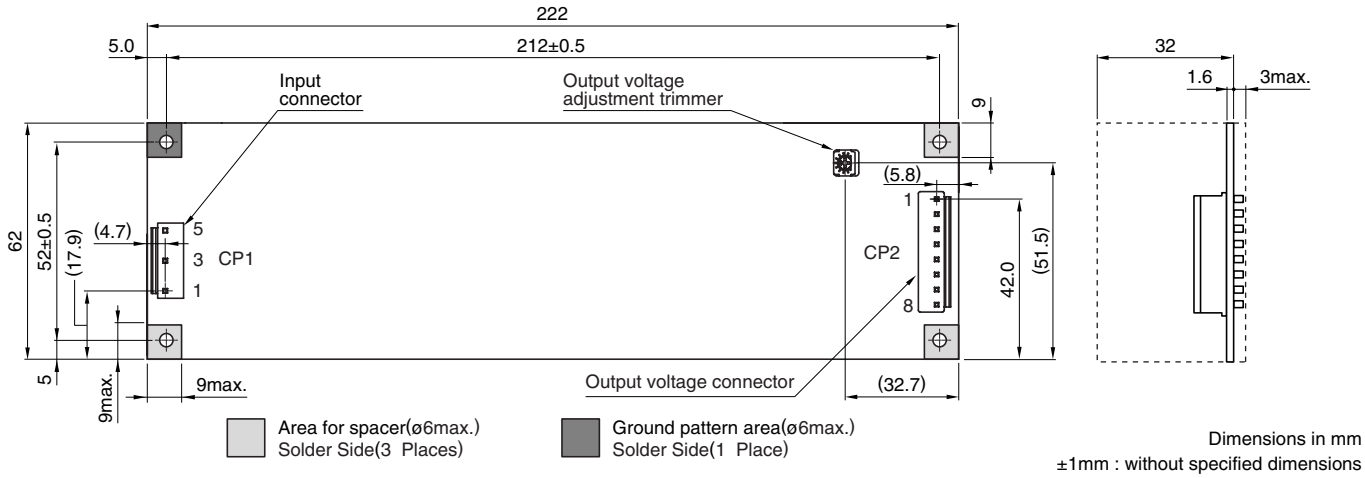
Part No.			JBW05-20R	JBW12-8R5	JBW15-6R7	JBW24-4R3
Rated output voltage and current			5V • 20A	12V • 8.5A	15V • 6.7A	24V • 4.3A
Maximum output power		W	100	102	100.5	103.2
Input conditions						
Input voltage Eac/Edc		V	85 to 265[Rating: 100-240]/120 to 370			
Input frequency		Hz	47 to 66			
Input current		A	1.8/1.0max.[100-240V]			
Fuse rating		A	5			
Surge current		A	30/60max.[100-240V]			
Leakage current		mA	0.75/0.75max.[AC.100V(DENAN)/240V(UL, IEC)]			
Power factor			0.99/0.95typ.[100-240V]			
Efficiency		%	78/80typ. [100-240V]	80/82typ. [100-240V]	80/82typ. [100-240V]	82/85typ. [100-240V]
Output characteristics						
Output voltage Edc		V	5	12	15	24
Voltage variable range Edc		V	±10%	±10%	±10%	±10%
Maximum output current		A	20	8.5	6.7	4.3(Peak5)
Overvoltage threshold Edc		V	5.75 to 6.9	13.8 to 16.8	17.2 to 21	27.6 to 33.6
Overcurrent threshold		A	21.0min.	10.6min.	8.38min.	5.38min.
Voltage stability	Source effect	%	0.4max.[Within the input voltage range]			
	Load effect	%	0.8max.[0 to 100% load]			
	Temperature effect	%	1max.[Ambient temperature: –10 to +60°C]			
	Drift(Time effect)	%	0.4max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]			
	Recovery	%	±4max.[50 to 100% sudden load change]			
Ripple Ep-p		mV	80	120	120	120
Ripple noise Ep-p		mV	120	150	150	150
Start up time		ms	500max.(400typ.)/500max.(300typ.)[AC.100/240V]			
Hold up time		ms	20typ.[100-240V]			
Auxiliary functions						
Indicator display			No			
Overvoltage protection			Voltage shut-down type(Latch).			
Overcurrent protection			Rectangular type, automatic recovery.			
Remote ON-OFF			No			
Remote sensing			No			
Standards						
Safety standards			UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV) approved.			
Noise terminal voltage			FCC-B, VCCI-B, EN55011-B, EN55022-B meet.			
Input harmonics current requirement			EN61000-3-2			
CE marking			Planned compliance.			
Constructions						
External dimensions		mm	35×62×222[H×W×L]			
Weight		g	400max.			
Mounting method			Can be attached to 1 side.			
Case material			FR4			



• All specifications are subject to change without notice.

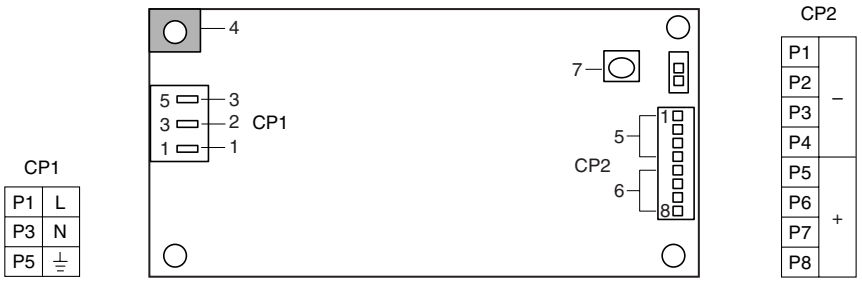
JBW100W Type

SHAPES AND DIMENSIONS



Dimensions in mm
±1mm : without specified dimensions

TERMINAL DESIGNATION



· Japan Solderless Terminal Co., Ltd.
VH Series B3P5-VH-B

· Japan Solderless Terminal Co., Ltd.
VH Series B8P-VH-B

Terminal No.	Designations
1	Input terminal(L)
2	Input terminal(N)
3	Frame ground terminal(G)
4	Ground pad
5	Output terminal(–)
6	Output terminal(+)
7	Output voltage setting trim(+)

Connector made by	Power supply side connector	Cable Side	
		Housing	Terminal
Japan Solderless Terminal Co., Ltd.			
Input Connector(CP1)VH Series	B3P5-VH-B	VHR-5N	SVH-21T-P1.1
Output Connector(CP2)VH Series	B8P-VH-B	VHR-8N	SVH-21T-P1.1

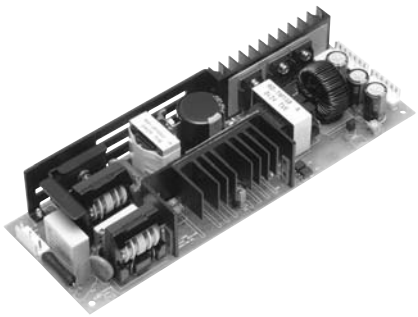
Option	Part No.
Set	4EU20G056

JBW150W Type

SPECIFICATIONS AND STANDARDS

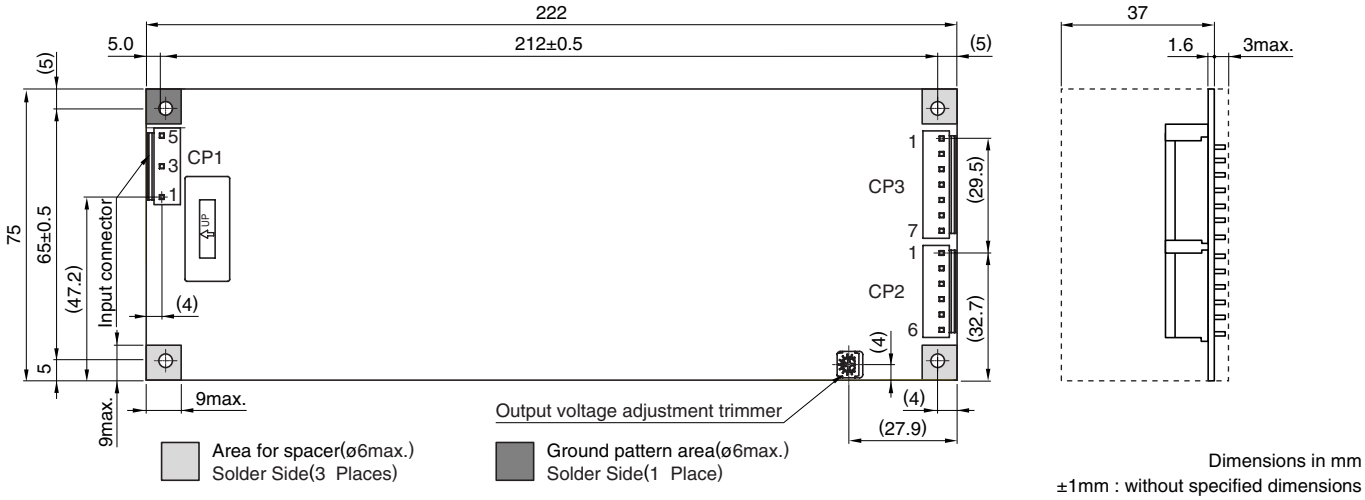
Part No.			JBW05-30R	JBW12-12R	JBW15-10R	JBW24-6R3	JBW48-3R2
Rated output voltage and current*			5V • 30A	12V • 12A	15V • 10A	24V • 6.3A	48V • 3.2A
Maximum output power		W	150	150	150	151.2	153.6
Input conditions							
Input voltage Eac/Edc		V	85 to 265[Rating: 100-240]/120 to 370				
Input frequency		Hz	47 to 66				
Input current		A	2.7/1.5max.[100-240V]				
Surge current		A	30/60max.[100-240V]				
Leakage current		mA	0.75/0.75max.[AC.100V(DENAN)/240V(UL, IEC)]				
Power factor			0.99/0.95typ.[100-240V]				
Efficiency		%	78/80typ. [100-240V]	81/83typ. [100-240V]	81/83typ. [100-240V]	82/84typ. [100-240V]	82/84typ. [100-240V]
Output characteristics							
Output voltage Edc		V	5	12	15	24	48
Voltage variable range Edc		V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5	21.6 to 26.4	43.2 to 52.8
Maximum output current		A	30	12.5	10	6.3(Peak7.5)	3.2
Overvoltage threshold Edc		V	5.75 to 6.9	13.8 to 16.8	17.2 to 21	27.6 to 33.6	55.2 to 67.2
Overcurrent threshold		A	31.5min.	15.7min.	12.5min.	7.87min.	3.36min.
Voltage stability	Source effect	%	0.4max.[Within the input voltage range]				
	Load effect	%	0.8max.[0 to 100% load]				
	Temperature effect	%	1max.[Ambient temperature: –10 to +60°C]				
	Drift(Time effect)	%	0.4max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]				
	Recovery	%	±4max.[50 to 100% sudden load change]				
Ripple Ep-p		mV	80max.	120max.	120max.	120max.	150max.
Ripple noise Ep-p		mV	120max.	150max.	150max.	150max.	350max.
Start up time		ms	500max.(400typ.)/500max.(300typ.)[AC.100/240V]				
Hold up time		ms	25/35typ.[AC.100/240V]				
Auxiliary functions							
Indicator display			No				
Overvoltage protection			Voltage shut-down type(Latch).				
Overcurrent protection			Rectangular type, automatic recovery.				
Remote ON-OFF			No				
Remote sensing			No				
Standards							
Safety standards			UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV) approved.				
Noise terminal voltage			FCC-B, VCCI-B, EN55011-B, EN55022-B meet.				
Input harmonics current requirement			EN61000-3-2				
CE marking			Meet.				
Constructions							
External dimensions		mm	40×75×222[H×W×L]				
Weight		g	550max.				
Mounting method			Can be attached to 1 side.				
Case metal			FR4				

* Current rating(maximum output current) is determined for –10 to +40°C. Derating is required when used outside this temperature range.



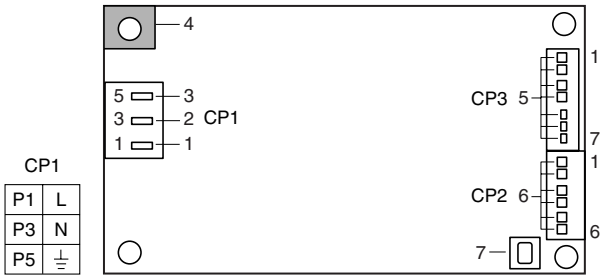
JBW150W Type

SHAPES AND DIMENSIONS



Dimensions in mm
±1mm : without specified dimensions

TERMINAL DESIGNATION



Terminal No.	Designations
1	Input terminal(L)
2	Input terminal(N)
3	Frame ground terminal(G)
4	Ground pad
5	–Output terminal(–)
6	+Output terminal(+)
7	Output voltage setting trim(+)

· Japan Solderless Terminal Co., Ltd.
VH Series B3P5-VH-B

· Japan Solderless Terminal Co., Ltd.
VH Series B6P-VH-B

· Japan Solderless Terminal Co., Ltd.
VH Series B7P-VH-B

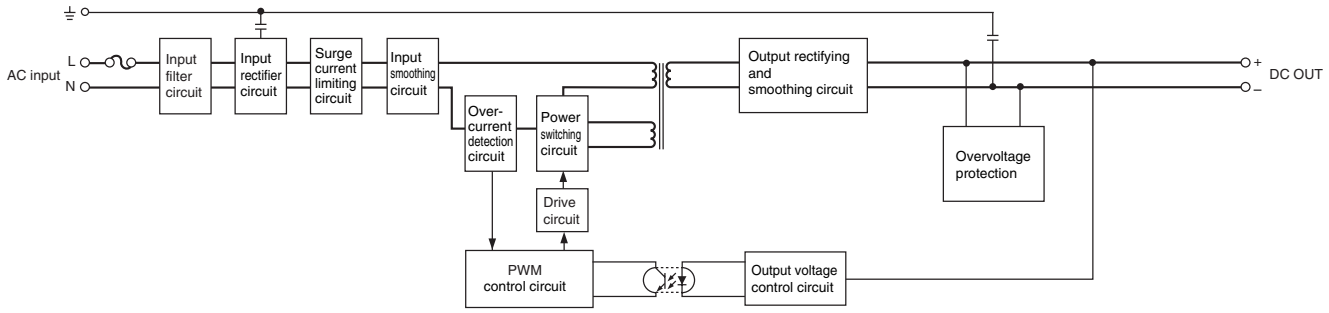
Connector made by	Power supply side connector	Cable Side	
		Housing	Terminal
Japan Solderless Terminal Co., Ltd.			
Input Connector(CP1)VH Series	B3P5-VH-B	VHR-5N	SVH-21T-P1.1
Output Connector(CP2)VH Series	B6P-VH-B	VHR-6N	SVH-21T-P1.1
Output Connector(CP3)VH Series	B7P-VH-B	VHR-7N	SVH-21T-P1.1

Option	Part No.
Set	4EU00G062

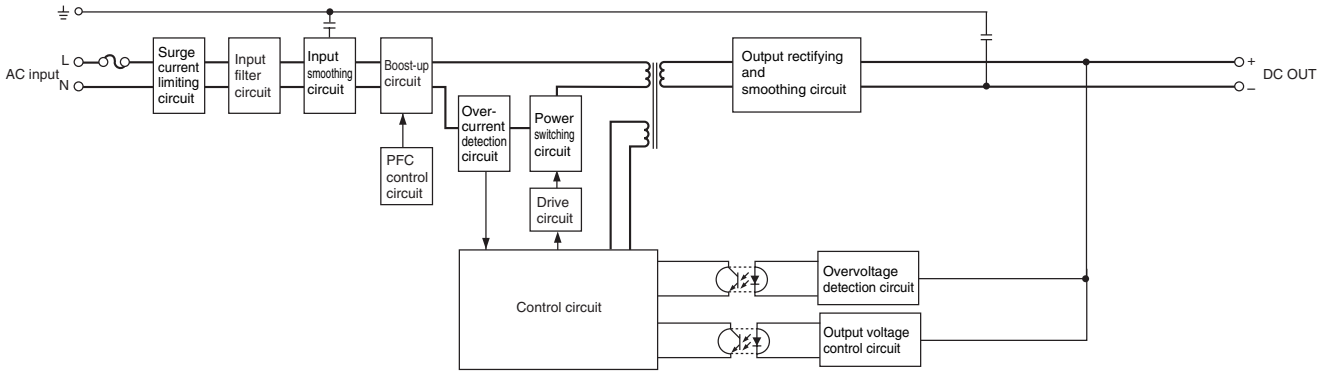
Characteristics, Functions, and Applications

BLOCK DIAGRAMS

JBW10W/15W/30W TYPES



JBW50W TYPE

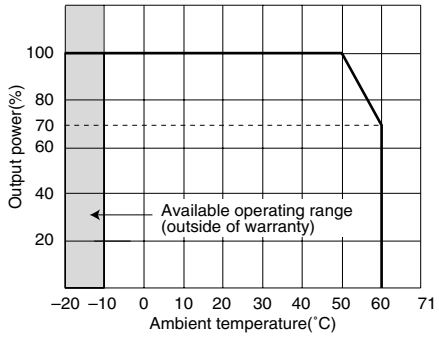


COMMON SPECIFICATIONS

Temperature and humidity		
Temperature range	Operating(°C)	–10 to +60
	Operating available(°C)	–20 to –10
	Storage(°C)	–30 to +75
Humidity range	Operating(%)RH	10 to 90[Maximum wet-bulb temperature: 35°C, without dewing]
	Storage(%)RH	
Vibration and shock		
Vibration	5 to 10Hz	All amplitude 10mm[3 directions, each 1h]
	10 to 200Hz	Acceleration 19.6m/s^2 (2G)[3 directions, each 1h]
Shock	Acceleration	10 to 50W: 588m/s^2 (60G)[3 directions, each 3 times]/75 to 150W: 588m/s^2(60G)[Sine wave]
	Pulse duration	11±5ms
Withstand voltage and insulation resistance		
Withstand voltage	Input terminal to ground terminal(G)	Eac: 2kV, 1min[Normal temperature, normal humidity, cutout current 10mA]
	Input terminal to output terminal	Eac: 3kV, 1min[Normal temperature, normal humidity, cutout current 10mA]
	Output terminal to ground terminal(G)	Eac: 500V, 1min[Normal temperature, normal humidity, cutout current 10mA]
Insulation resistance	Input terminal to ground terminal(G)	Eac: 500V, 100MΩ min.[Normal temperature, normal humidity]
	Input terminal to output terminal	
	Output terminal to ground terminal(G)	

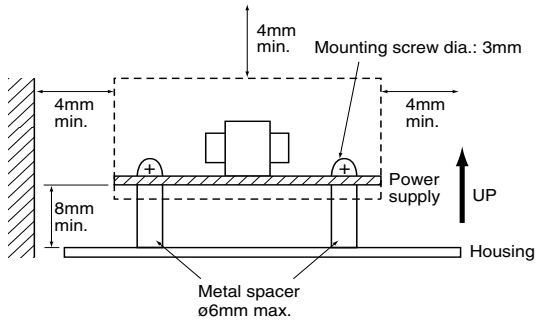
Characteristics, Functions, and Applications

10 to 50W TYPES
OUTPUT POWER-AMBIENT TEMPERATURE(DERATINGS)

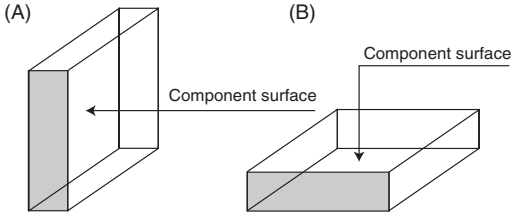


INSTALLATIONS

- Mounting the power supply at the four corners with metal spacers (2 corners for 10W models).
- Maintain a min. 4mm clearance distance in order to satisfy insulation and high voltage safety requirements.
- Lay an insulating sheet under the power supply in case a min. 8mm installation space cannot be secured between the PC board and the housing.
- Provide a min. 4mm distance between heat sink or component surface and surrounding objects in order to cause a thermal convection.
- Since components are mounted on the back (solder) side of the product, sufficient care should be taken when handling the power supply to protect the PC board from shock, vibration, torsion, etc. which can result in damage caused by cracked chip components.

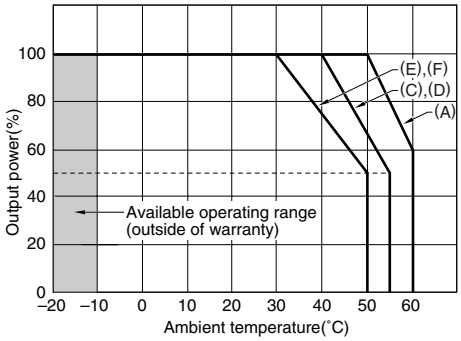


To install the power supply in a device, apply the standard installation direction (A) or (B).
In case of an installation in other directions, please contact TDK.

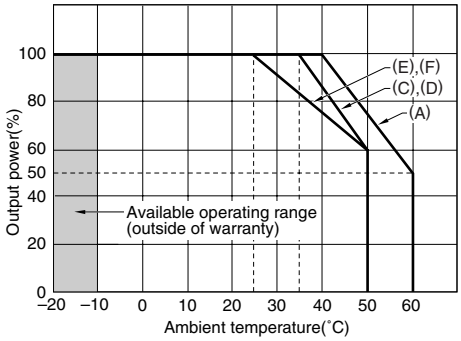


The shaded portion indicates a side in which an output connector is arranged.

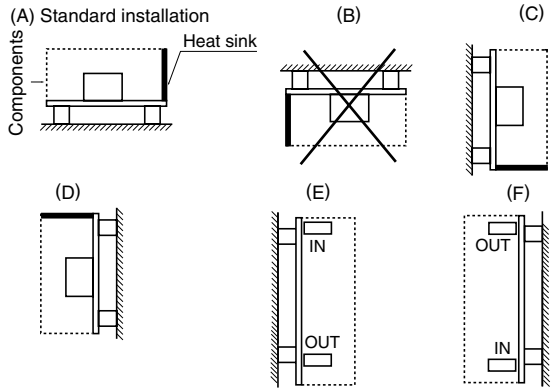
75 to 150W TYPES
OUTPUT POWER-AMBIENT TEMPERATURE(DERATINGS)
75, 100W TYPES



150W TYPE



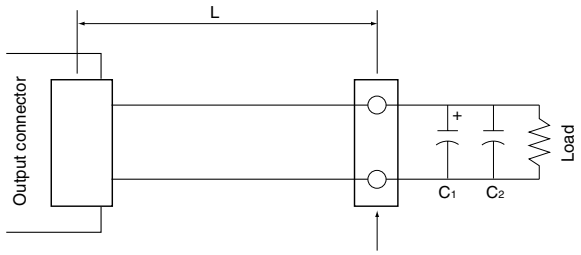
INSTALLATION DIRECTION



There are installation directions (B) to (F) as shown below in addition to the standard installation direction (A) for mounting the power supply on an apparatus. The installation (B), however, is inhibited because it will cause heat to be trapped inside the power supply.
Derating of the output voltage and the ambient temperature for the installation directions (C) to (F) are not the same as for the direction (A). Please consult us if you need.

Characteristics, Functions, and Applications

RIPPLE NOISE MEASUREMENT CONDITIONS



Output ripple and noise measurement point (20MHz)
C_1: 100μF Electrolytic capacitor
C_2: 0.1μF Film capacitor
L : 150mm

SERIES OPERATION (TO INCREASE OUTPUT VOLTAGE OR TO OBTAIN SEPARATE ±OUTPUT)

When the output voltage of a single power supply is insufficient, several power supplies can be connected in series in order to obtain a higher voltage or separate ±outputs.

If power supplies A and B in the illustration below are 5V each, a 10V output can be obtained in this connection. It should be noted that, however, the output current is limited to the lower rated current value of the power supplies A and B. There is no problem if the voltages of A and B are different from each other.

D1 and D2 in the illustration designate diodes for preventing reverse voltage application. They are provided for preventing internal components of the power supply having the lower rated voltage from being damaged by an applied reverse voltage caused by a short circuit in the load or the like.

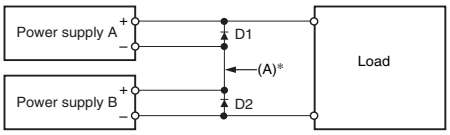
Use diodes which meet the following requirements:

Reverse withstanding voltage: Over twice that of the combined output voltage

Forward current: Over twice that of the output current

Forward voltage drop: As small as possible
(e.g. Shottkey diode, etc.)

SERIES CONNECTION FOR INCREASING OUTPUT VOLTAGE



* For obtaining separate ±outputs, (A) should be zero voltage.

INSULATION AND WITHSTAND VOLTAGE TESTS

The insulation and withstand voltage tests may cause deterioration. Care must be taken for execution of the tests. The potential must be equal among input, output, and FG (frame ground) terminals. It is preferable to use testers that gently start up at the test-ON and automatically discharge charged energy at the test-OFF. Manual discharging after the tests should be through a resistor around 100kΩ to 1MΩ (Do not perform discharging at low impedance. It may cause deterioration.)

In any case, take full countermeasures for electric-shock prevention.

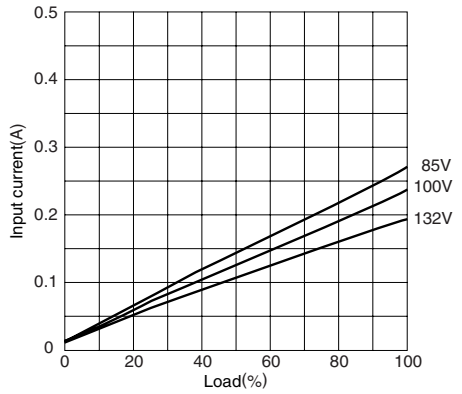
OTHER CONDITIONS

- Unless conditions are otherwise specified in the specifications or standards, 25°C and rated input-output should be applied.

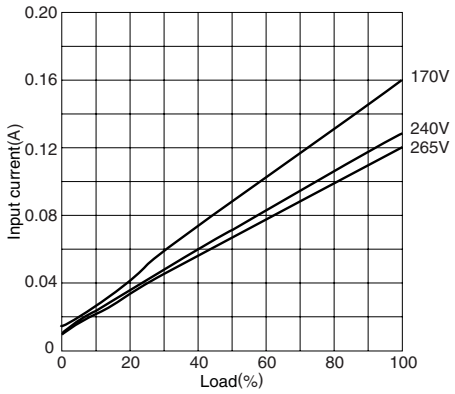
Characteristics, Functions, and Applications

JBW10W TYPE TYPICAL CHARACTERISTICS: JBW05-2R0

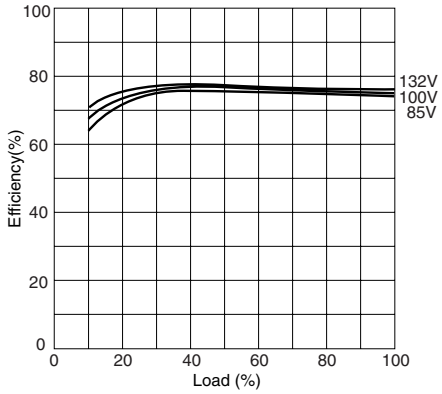
AC.100V TYPE: INPUT CURRENT



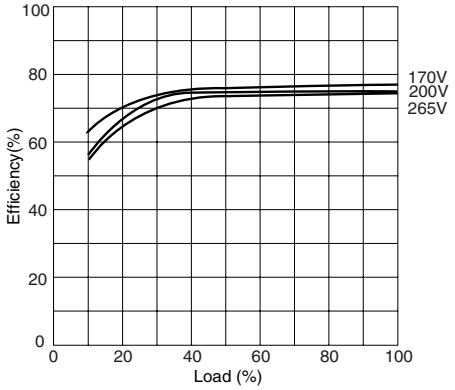
AC.200V TYPE: INPUT CURRENT



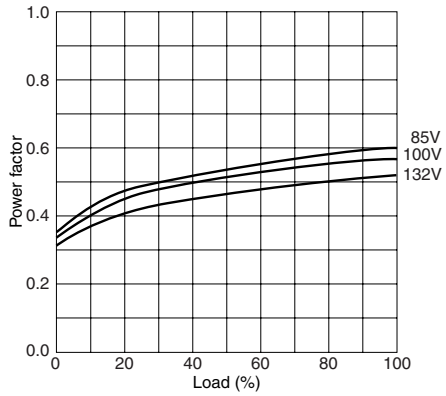
AC.100V TYPE: EFFICIENCY



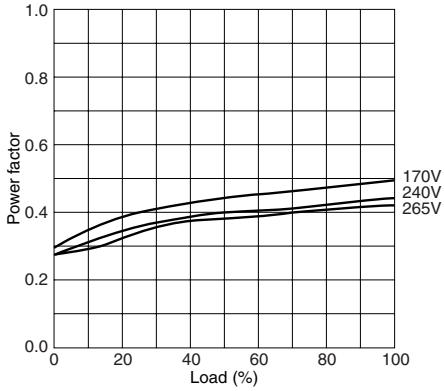
AC.200V TYPE: EFFICIENCY



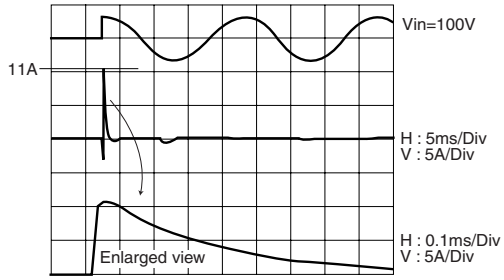
AC.100V TYPE: POWER FACTOR



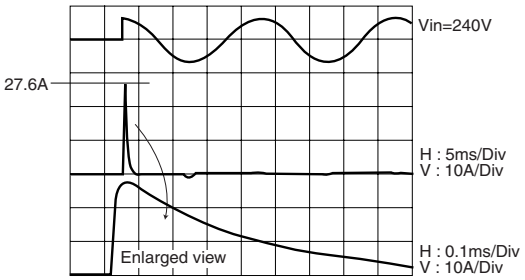
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



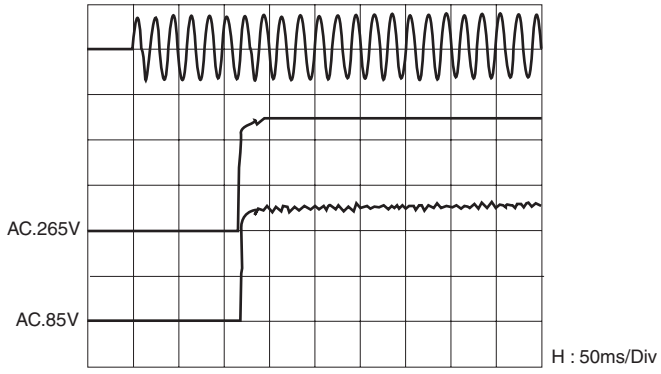
AC.200V TYPE: SURGE CURRENT



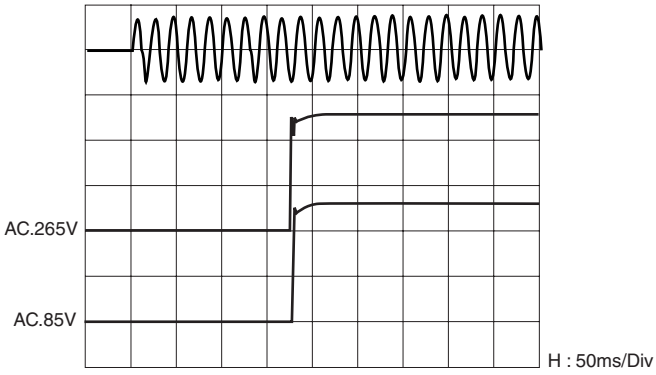
Characteristics, Functions, and Applications

JBW10W TYPE TYPICAL CHARACTERISTICS: JBW05-2R0

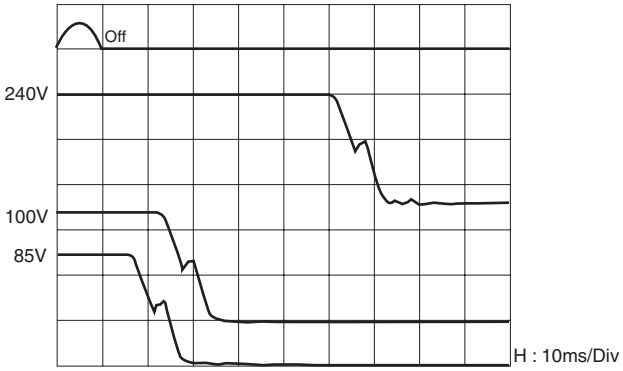
AC.100/200V TYPE: –20°C START UP CHARACTERISTICS



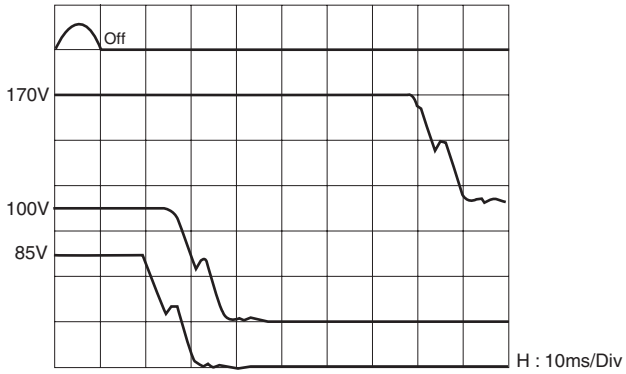
AC.100/200V TYPE: +60°C START UP CHARACTERISTICS



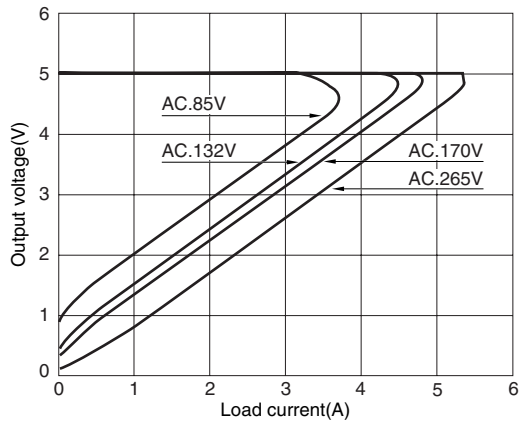
AC.100/200V TYPE: –20°C HOLD UP CHARACTERISTICS



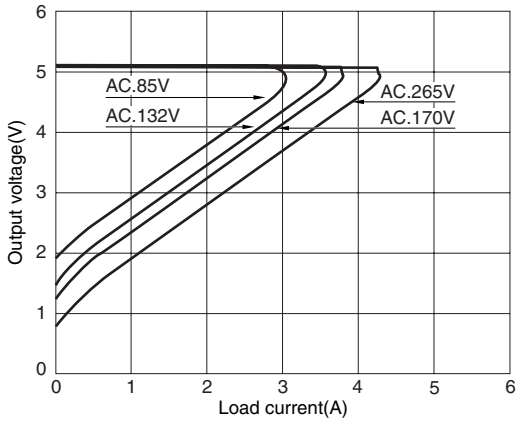
AC.100/200V TYPE: +60°C HOLD UP CHARACTERISTICS



AC.100V/200V TYPE: –20°C OVERCURRENT CURVE



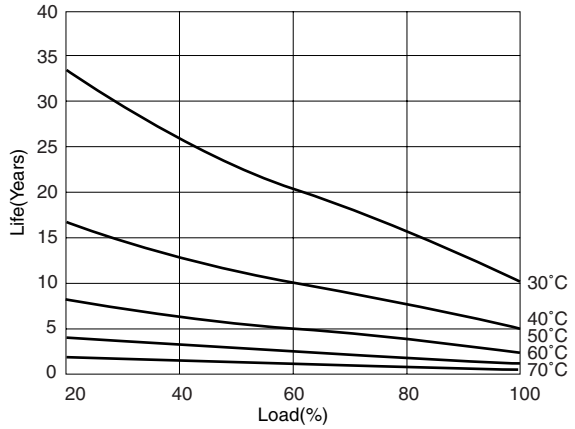
AC.100V/200V TYPE: +60°C OVERCURRENT CURVE



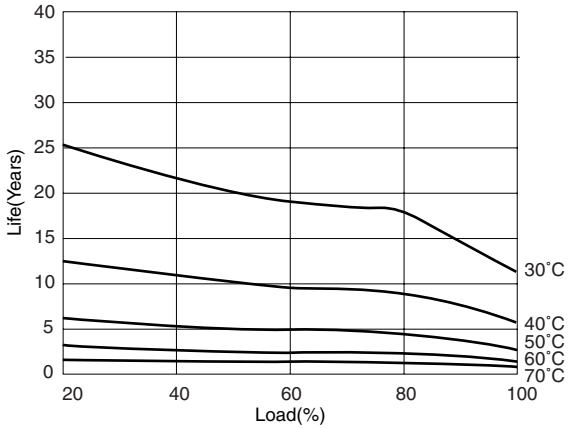
Characteristics, Functions, and Applications

JBW10W TYPE TYPICAL CHARACTERISTICS: JBW05-2R0

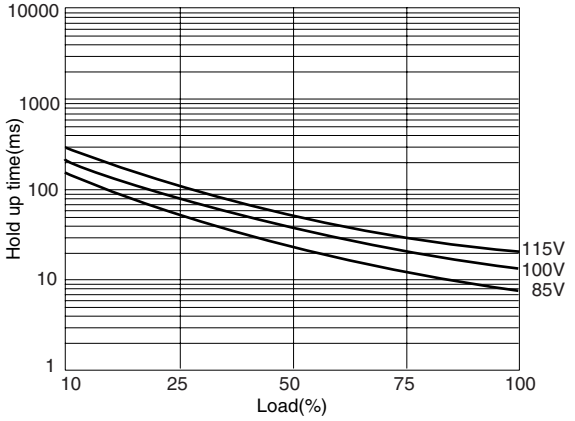
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



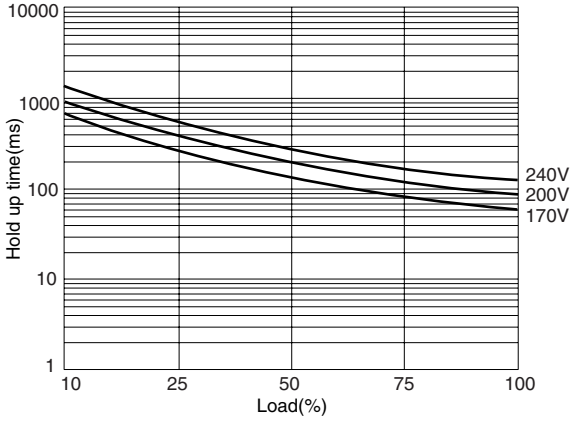
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



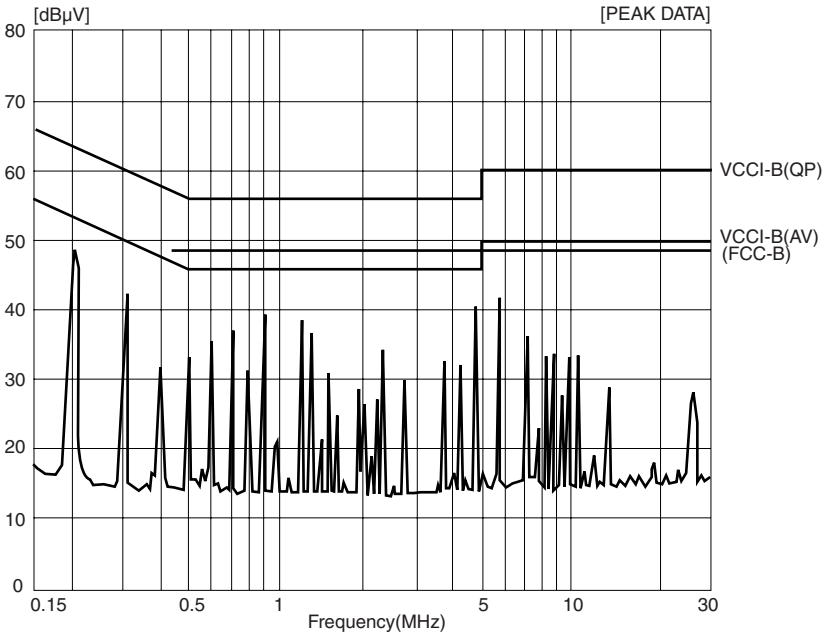
AC.100V TYPE: HOLD UP TIME



AC.200V TYPE: HOLD UP TIME



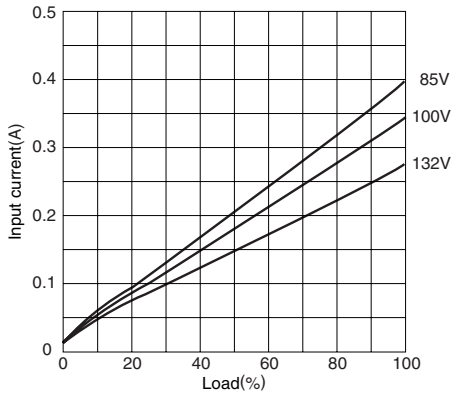
CONDUCTIVE NOISE EMISSION



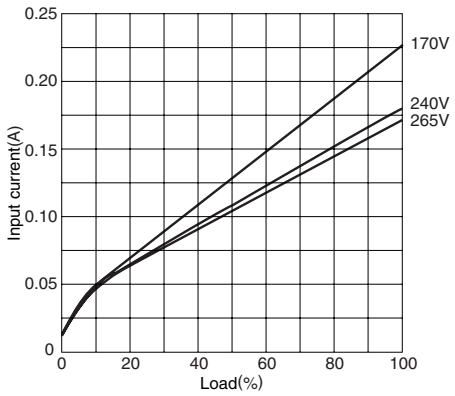
Characteristics, Functions, and Applications

JBW15W TYPE TYPICAL CHARACTERISTICS: JBW05-3R0

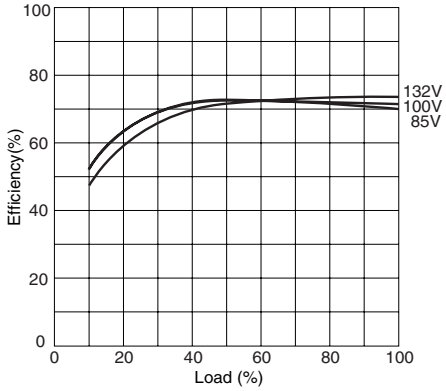
AC.100V TYPE: INPUT CURRENT



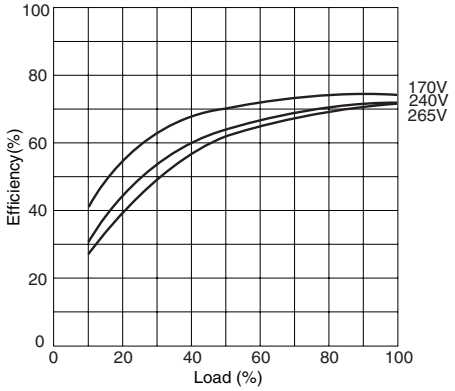
AC.200V TYPE: INPUT CURRENT



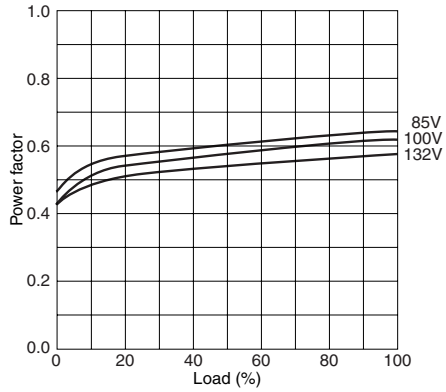
AC.100V TYPE: EFFICIENCY



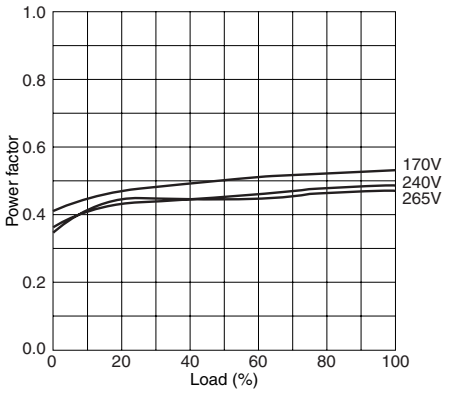
AC.200V TYPE: EFFICIENCY



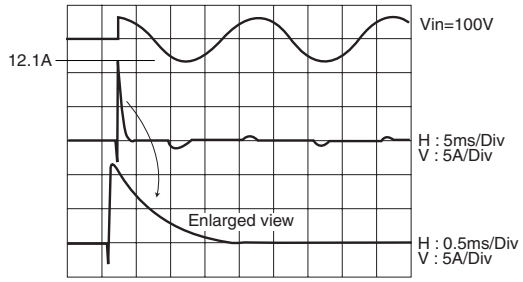
AC.100V TYPE: POWER FACTOR



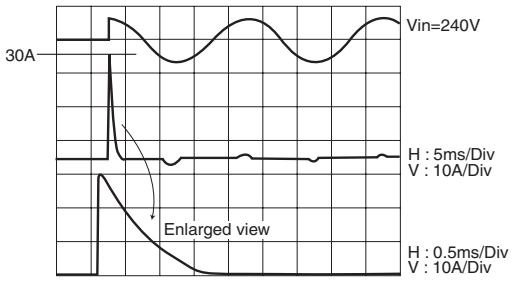
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



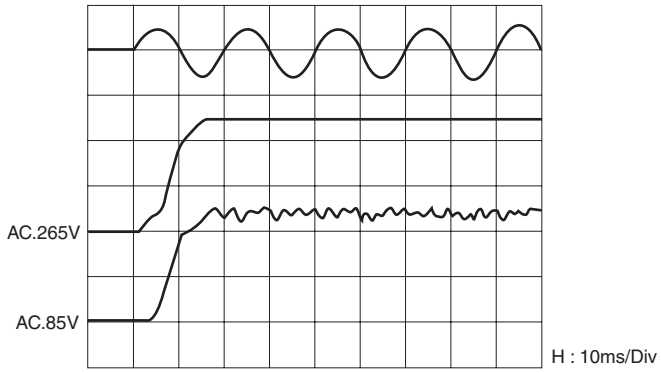
AC.200V TYPE: SURGE CURRENT



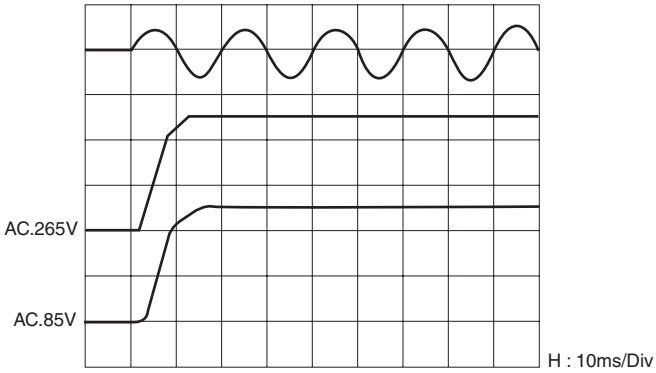
Characteristics, Functions, and Applications

JBW15W TYPE TYPICAL CHARACTERISTICS: JBW05-3R0

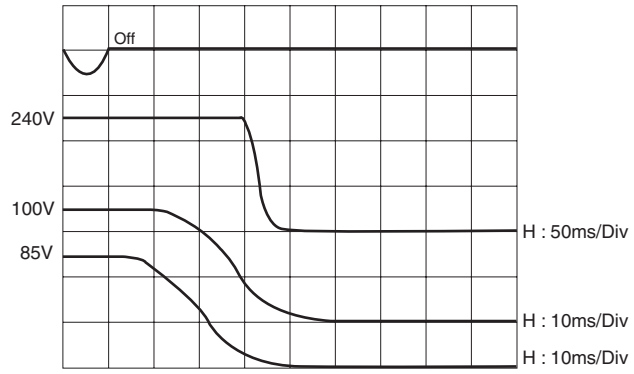
AC.100/200V TYPE: –20°C START UP CHARACTERISTICS



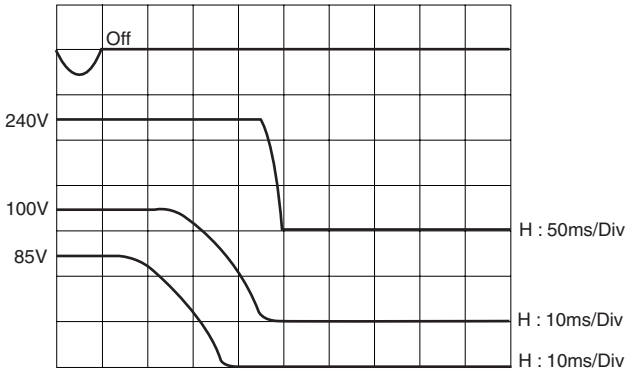
AC.100/200V TYPE: +60°C START UP CHARACTERISTICS



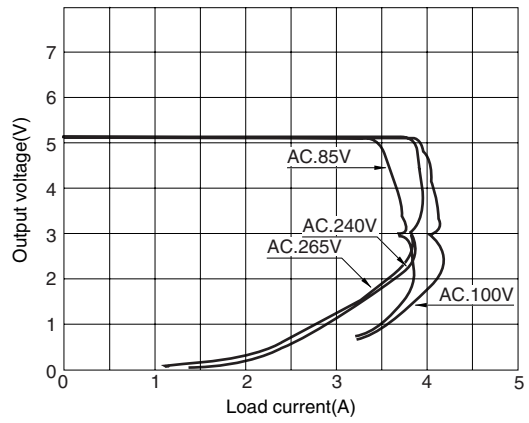
AC.100/200V TYPE: –20°C HOLD UP CHARACTERISTICS



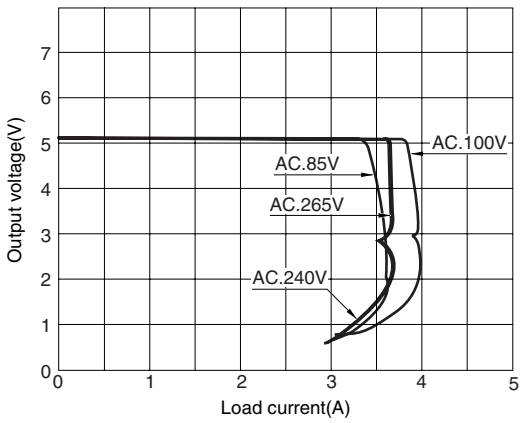
AC.100/200V TYPE: +60°C HOLD UP CHARACTERISTICS



AC.100V/200V TYPE: –20°C OVERCURRENT CURVE



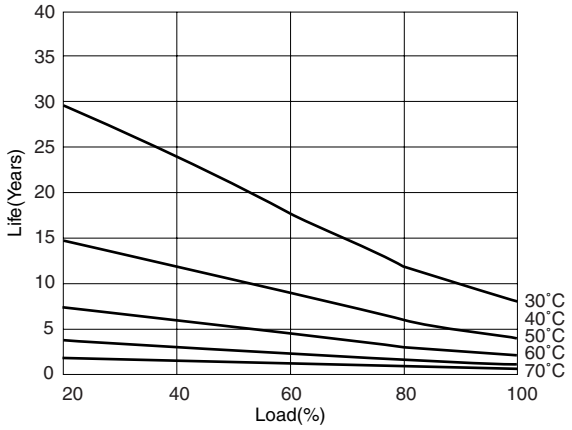
AC.100V/200V TYPE: +60°C OVERCURRENT CURVE



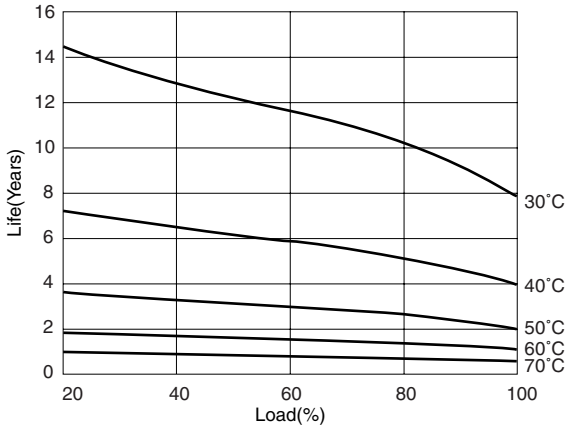
Characteristics, Functions, and Applications

JBW15W TYPE TYPICAL CHARACTERISTICS: JBW05-3R0

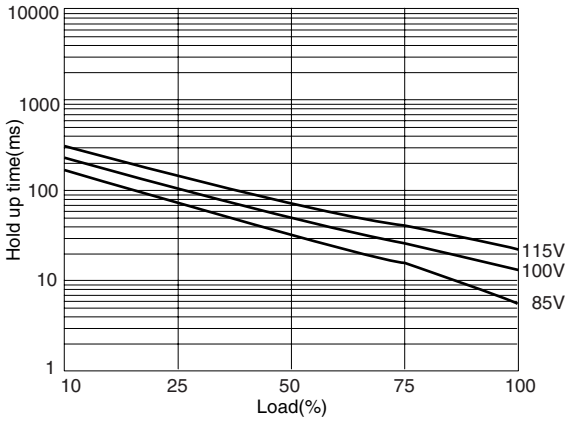
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



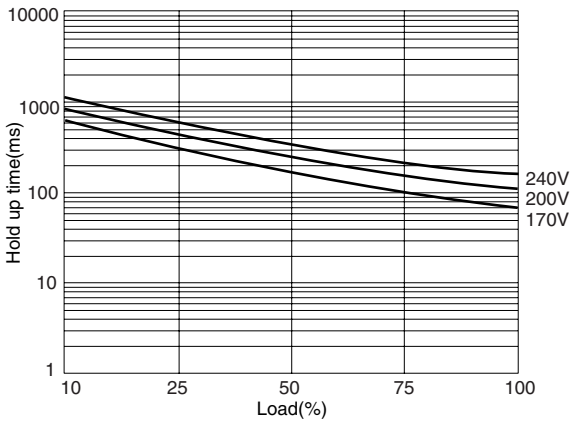
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



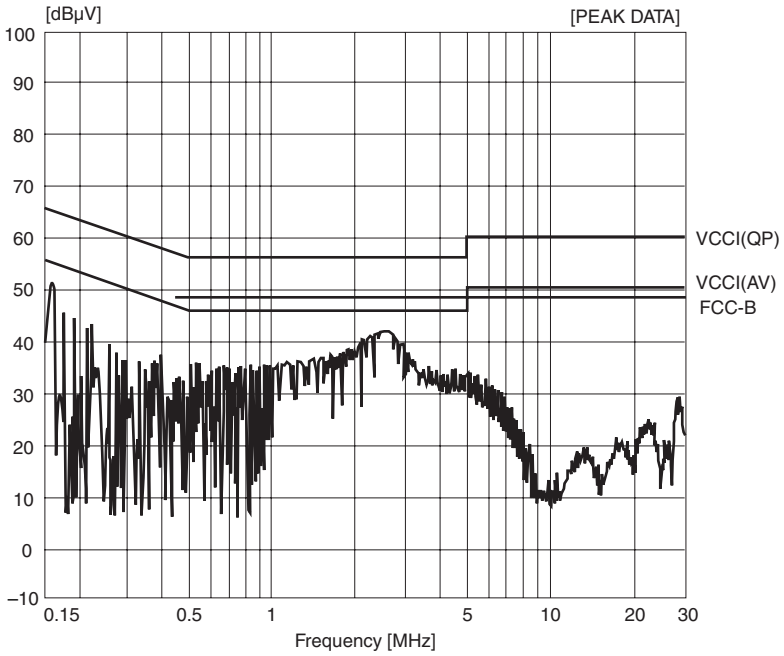
AC.100V TYPE: HOLD UP TIME



AC.200V TYPE: HOLD UP TIME



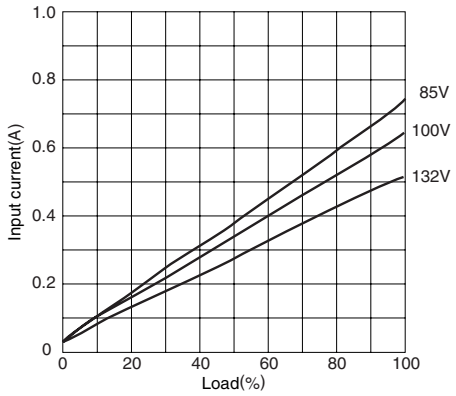
CONDUCTIVE NOISE EMISSION



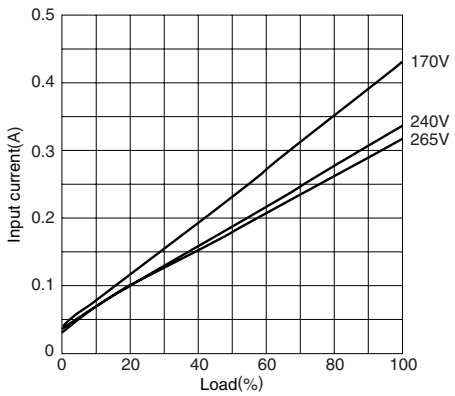
Characteristics, Functions, and Applications

JBW30W TYPE TYPICAL CHARACTERISTICS: JBW05-6R0

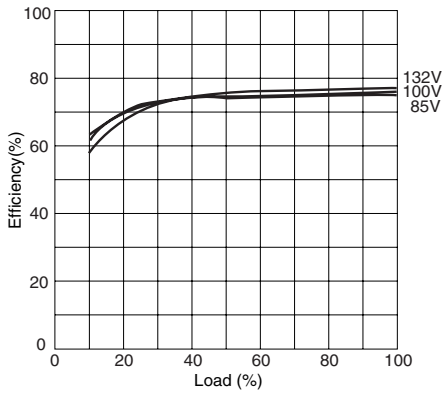
AC.100V TYPE: INPUT CURRENT



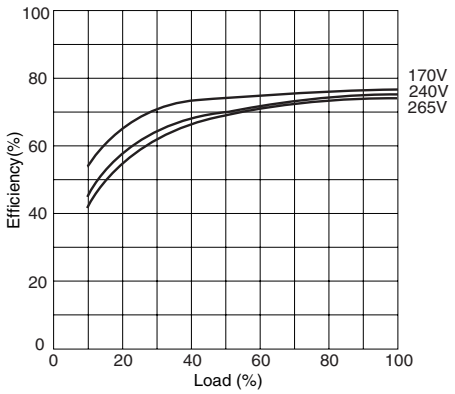
AC.200V TYPE: INPUT CURRENT



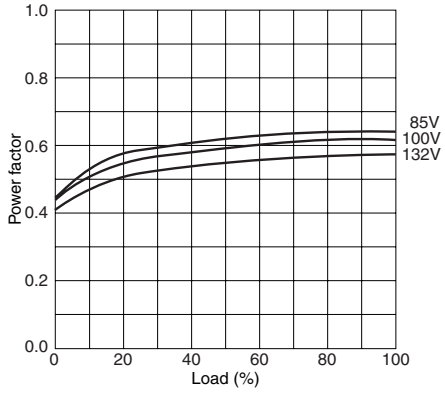
AC.100V TYPE: EFFICIENCY



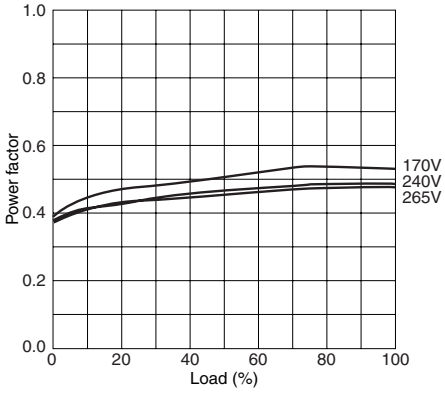
AC.200V TYPE: EFFICIENCY



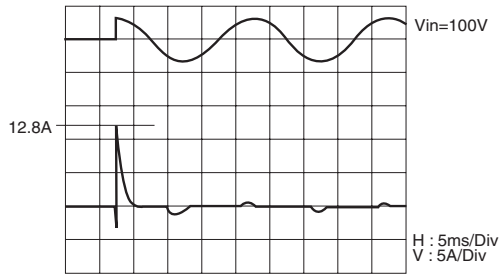
AC.100V TYPE: POWER FACTOR



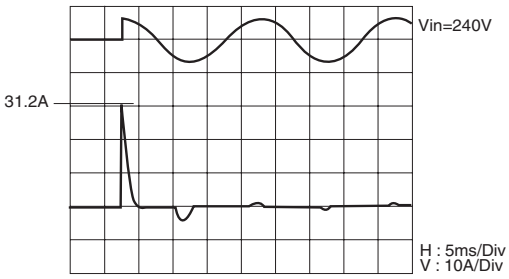
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



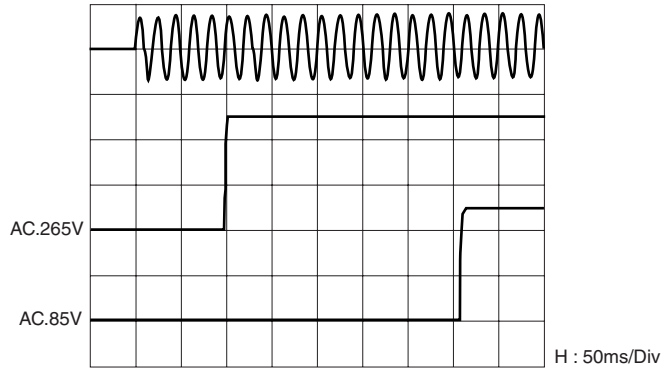
AC.200V TYPE: SURGE CURRENT



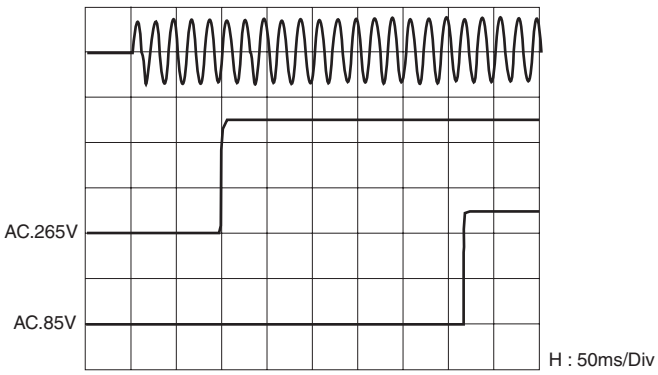
Characteristics, Functions, and Applications

JBW30W TYPE TYPICAL CHARACTERISTICS: JBW05-6R0

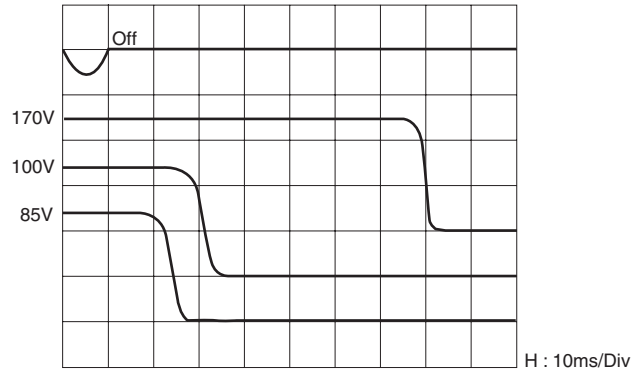
AC.100/200V TYPE: –20°C START UP CHARACTERISTICS



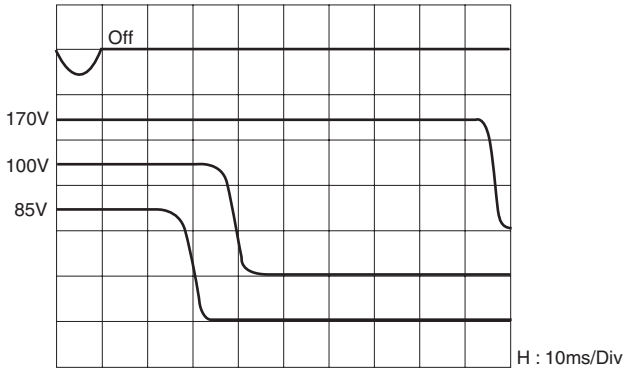
AC.100/200V TYPE: +60°C START UP CHARACTERISTICS



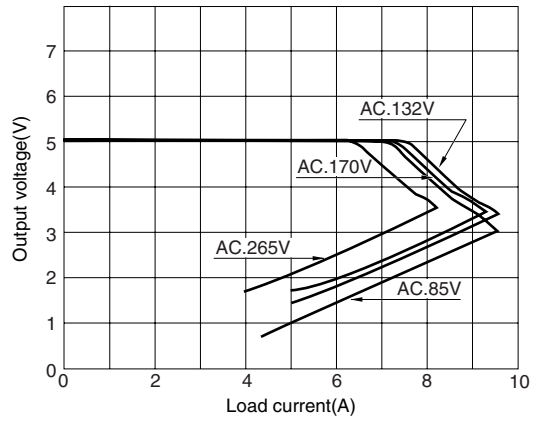
AC.100/200V TYPE: –20°C HOLD UP CHARACTERISTICS



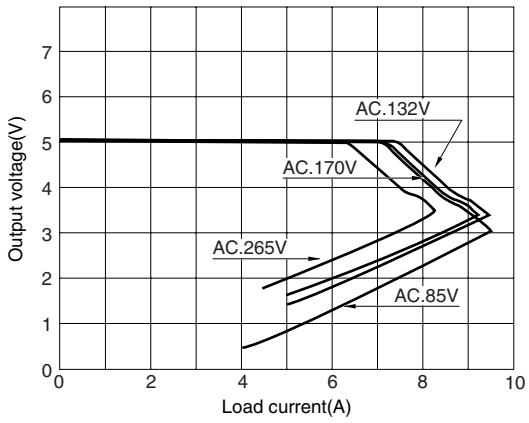
AC.100/200V TYPE: +60°C HOLD UP CHARACTERISTICS



AC.100V/200V TYPE: –20°C OVERCURRENT CURVE



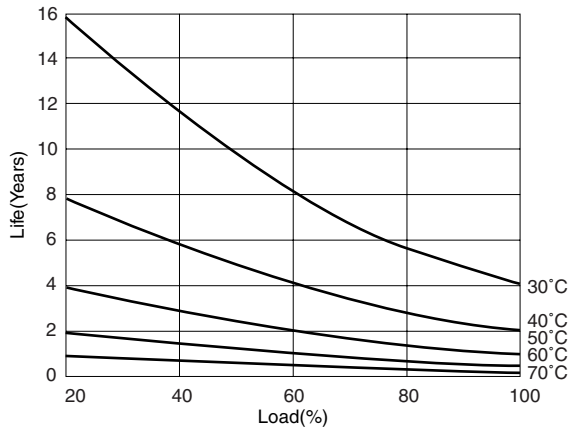
AC.100V/200V TYPE: +60°C OVERCURRENT CURVE



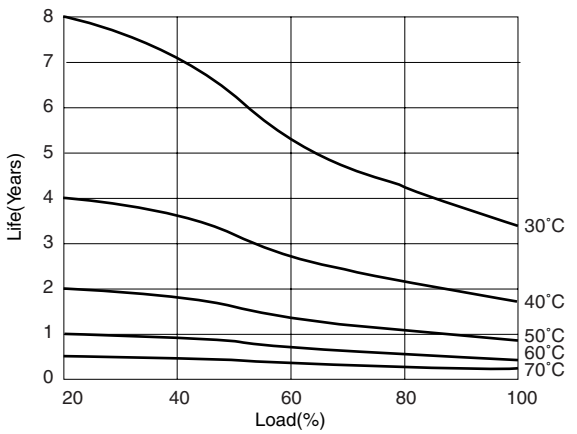
Characteristics, Functions, and Applications

JBW30W TYPE TYPICAL CHARACTERISTICS: JBW05-6R0

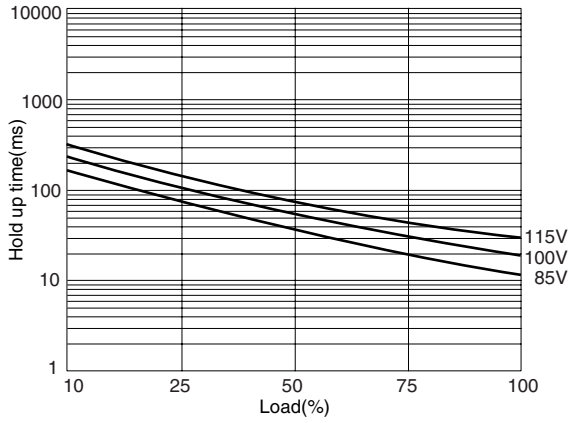
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



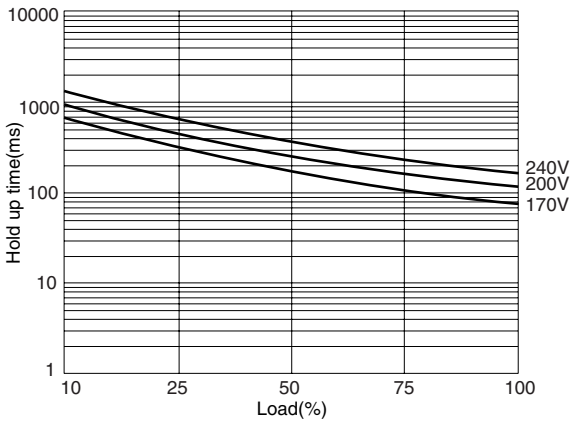
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



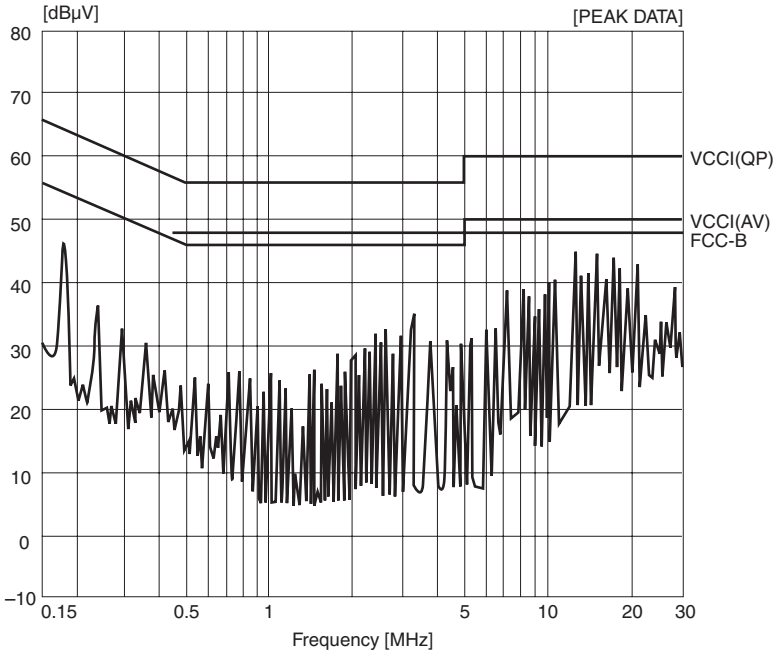
AC.100V TYPE: HOLD UP TIME



AC.200V TYPE: HOLD UP TIME



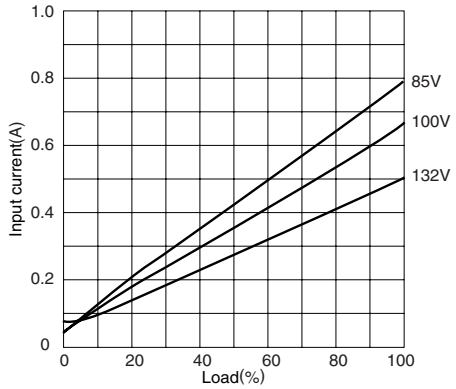
CONDUCTIVE NOISE EMISSION



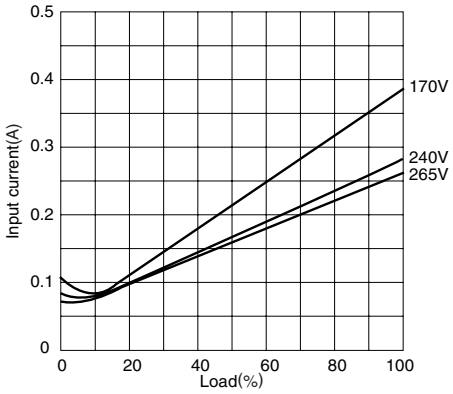
Characteristics, Functions, and Applications

JBW50W TYPE TYPICAL CHARACTERISTICS: JBW05-10R

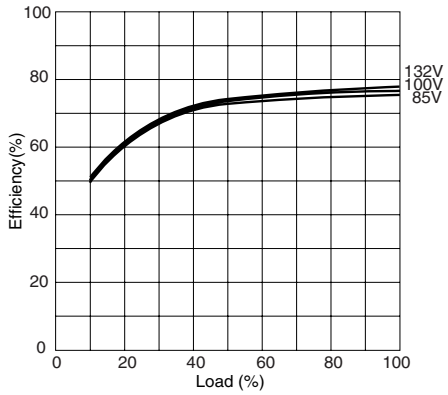
AC.100V TYPE: INPUT CURRENT



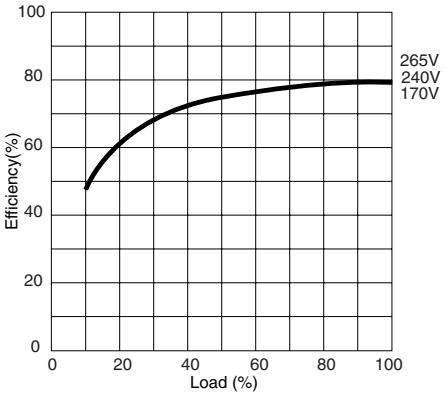
AC.200V TYPE: INPUT CURRENT



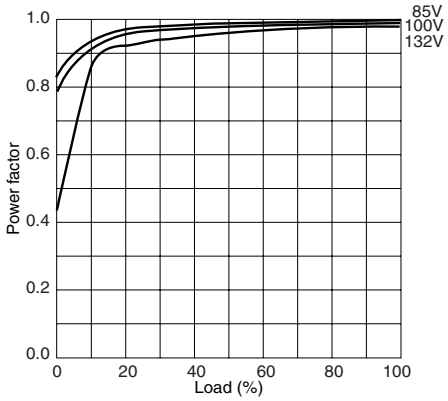
AC.100V TYPE: EFFICIENCY



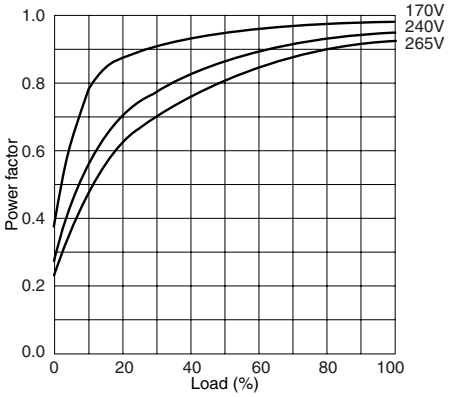
AC.200V TYPE: EFFICIENCY



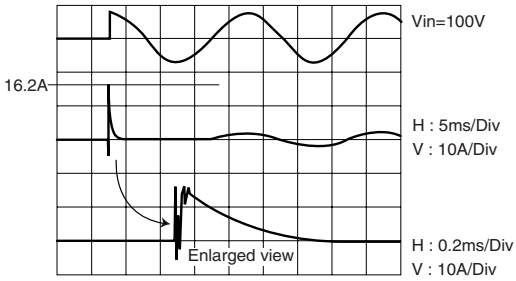
AC.100V TYPE: POWER FACTOR



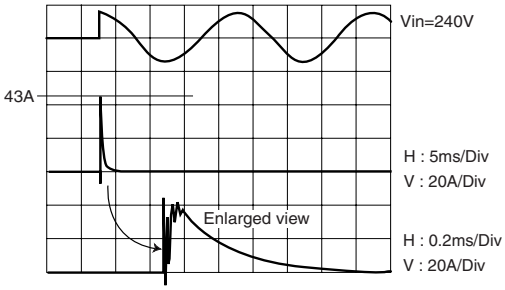
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



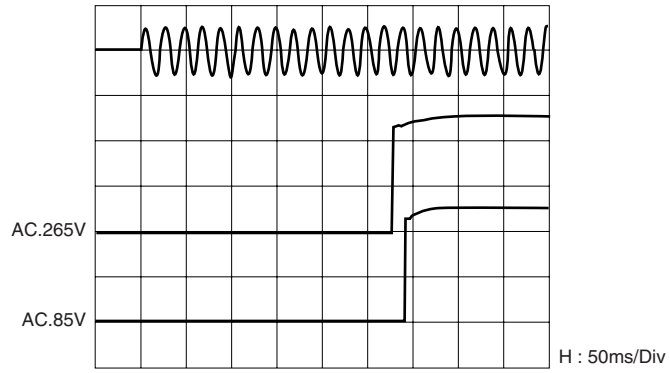
AC.200V TYPE: SURGE CURRENT



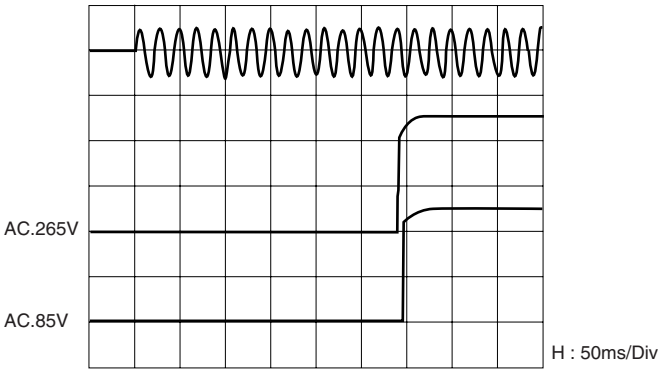
Characteristics, Functions, and Applications

JBW50W TYPE TYPICAL CHARACTERISTICS: JBW05-10R

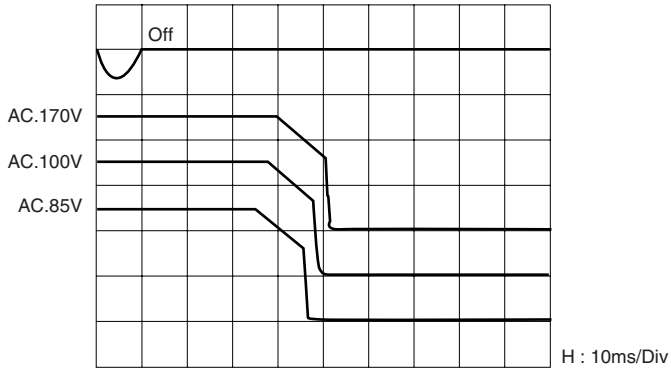
AC.100/200V TYPE: –20°C START UP CHARACTERISTICS



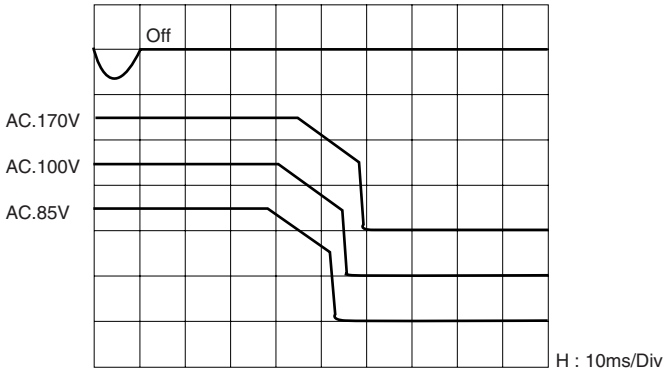
AC.100/200V TYPE: +60°C START UP CHARACTERISTICS



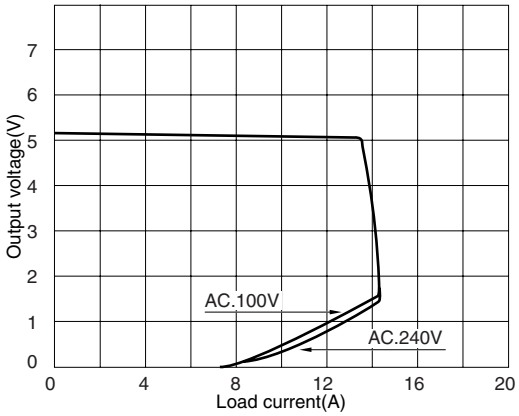
AC.100/200V TYPE: –20°C HOLD UP CHARACTERISTICS



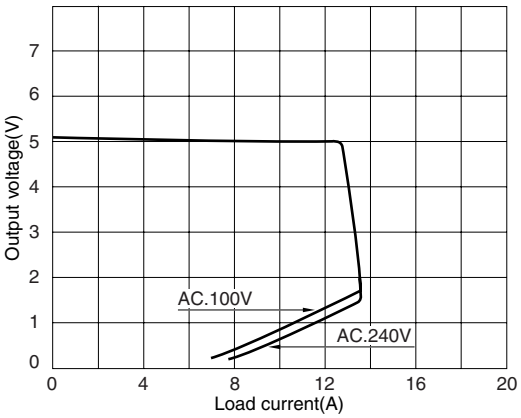
AC.100/200V TYPE: +60°C HOLD UP CHARACTERISTICS



AC.100V/200V TYPE: –20°C OVERCURRENT CURVE



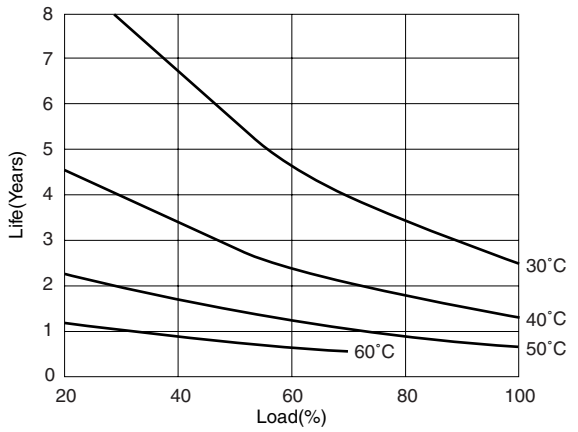
AC.100V/200V TYPE: +60°C OVERCURRENT CURVE



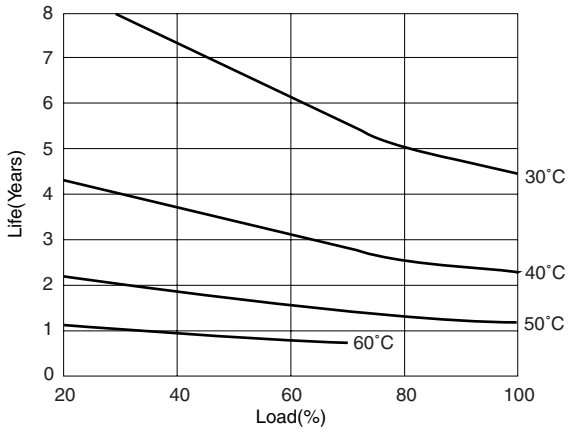
Characteristics, Functions, and Applications

JBW50W TYPE TYPICAL CHARACTERISTICS: JBW05-10R

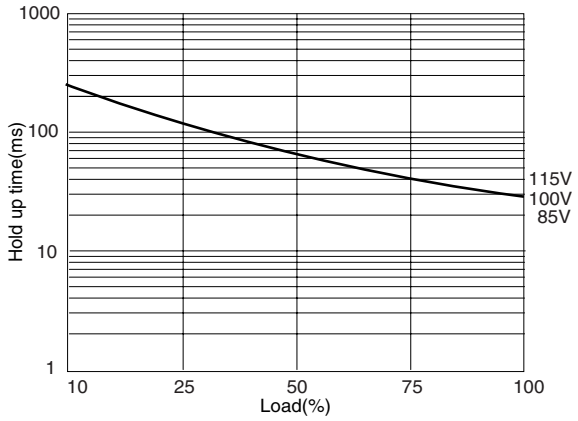
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



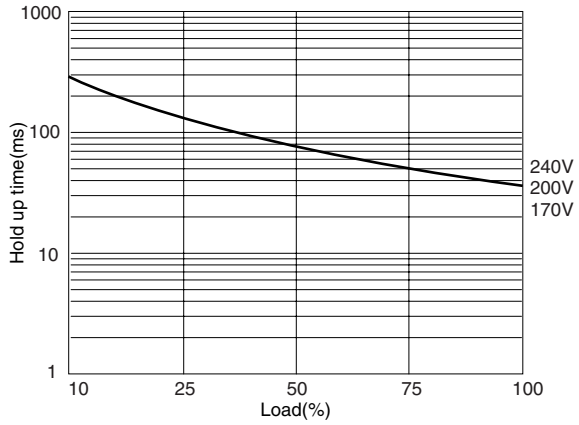
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



AC.100V TYPE: HOLD UP TIME



AC.200V TYPE: HOLD UP TIME



CONDUCTIVE NOISE EMISSION